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A Treaty Right to Education

Sheila Carr-Stewart

In the 1870s, representatives of the Crown and First Nations negotiated Treaties 1 to 7. Each included provision for education. This study focuses on the intent and expectations of education as a treaty right by the original signatories and the current divergent understandings. Today First Nations demand the fulfilment of their treaty right to education while Canada, despite constitutional authority and recent court decisions on treaties, administers educational services within the boundaries of its own legislation: the Indian Act. Honouring treaty commitments offers hope for educational opportunities and equity within the context of First Nation governance, traditions, and cultural milieu.

L'article porte sur les droits des Premières nations en matière d'éducation, tels qu'ils ont été reconnus par les traités 1 à 7 conclus dans les années 1870. Les Premières nations exigent les respect des dispositions des traités dans ce domaine. Mais en dépit des décisions récentes des tribunaux, le Canada administre les services d'éducation selon sa Loi sur les Indiens. Le respect des obligations nées d'un traité offre de l'espoir pour l'enseignement et l'équité dans le contexte de la gouvernance, des traditions et du milieu culturel des Premières nations.

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From the time of early contact, representatives of First Nations and European sovereigns entered into peace and friendship treaties. In 1752, Grand Chief Cope of the Mi'kmaq and His Excellency Peregrine Thomas Hopson, on behalf of the British Sovereign, agreed to articles of peace and friendship outlined in the Mi'kmaq Compact. The Compact or Treaty stipulated "the said Indians shall have all favour, Friendship & Protection shewn them from this His Majesty's Government" and in exchange the Mi'kmaq agreed to protect his Majesty's subjects from harm and "use their utmost Endeavours to bring in the other Indians to Renew and Ratify this Peace" (as cited in Cummings & Mickenberg, 1970, p. 307). Henderson, Benson, and Findlay (2000) stated the "Mi'kmaq Compact created boundaries for communities that respected their autonomous political and legal systems. The compact constituted an integrated legal order based on mutual obligations recognizing sharing, autonomy, and freedom of association" (p. 137).

The early treaties and specifically the 1763 Royal Proclamation formed the basis of Britain's treating with First Nations[1], and although the British

North America Act united the British colonies as the Dominion of Canada in 1867, the treaties continued to be recognized in Imperial law. In 1982, Canada's Constitution Act ensured "The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed" (as cited in Isaac, 1995, p. 310). Thus when Canada, with the aid of a loan from the British government, purchased the Hudson's Bay Company's territory in 1869, the Imperial Crown required Canada to ensure that

the claims of the Indian tribes to compensation for lands required for purposes of settlement will be considered and settled in conformity with the equitable principles which have uniformly governed the British Crown in its dealings with the aborigines. (Rupert's Land Order-in-Council, as cited in Cumming & Mickenberg, 1970, p. 148)

Between 1870 and 1877, Canada, on behalf of the Imperial Crown, met and negotiated Treaties 1 to 7 with First Nations from western Ontario to the foothills of the Rocky Mountains. Both Canada and First Nations entered into negotiations with specific goals. The treaty commissioners wanted to negotiate the transfer of land ownership to facilitate the construction of the railroad and the settlement of European and Canadian farmers and entrepreneurs in exchange for specific services (Morris, 1991/1880, p. 194). First Nations representatives, particularly during the Treaty 4 to 7 negotiations, wished to negotiate the peaceful sharing of their land in exchange for services that would enable them not only to survive the loss of their traditional lifestyle but also to participate fully in the new economy (Treaty 7 Elders & Tribal Council, 1996, p. xi).

I argue in this article that the First Nation representatives who negotiated the numbered treaties had an understanding of formal education and expected their members and future generations to benefit from such services. Formal education would enable First Nation communities to supplement traditional educational practices with western teaching so they could "live and prosper and provide" (Morris, 1991/1880, p. 28). The Crown, however, did not fulfil its constitutional obligations and, from the outset, chose to provide limited educational services not as a treaty right, but as an assimilationist mechanism through its own criteria, the Indian Act.

METHOD

The research methodology focuses on the human or social action within an historical setting and "begins from the point of view that inquiry is a matter of perception of qualities and an appraisal of value" (Schwandt,

1997, p. 130). Research methodology focussed on written and oral documentation relating to the provision of education within the context of the negotiations and signing of Treaty 7. Treaty 7 Elders were interviewed and while their comments are specific to Treaty 7, these comments have general applicability to the numbered treaties. I have centred my research on the rule of law, constitutional supremacy, and the legal precedents relating to treaty rights that are applicable to the treaty right to education.

TREATY PARTNERS

Two distinct societies, each with its own language and culture, met and negotiated treaties, each believing that the other had fully understood the intent and purpose of the negotiations (Treaty 7 Elders & Tribal Council, 1996, pp. 126–127). The treaties would, however, be as much a symbol of misunderstanding as of mutual agreement. Over the next century the two signatories debated the spirit and intent of the treaties and found little consensus in their understanding of the treaty negotiations and specifically what the treaty right to education entailed. The issue caused frequent dissension and at times conflict. The disparity solidified as First Nations continued to maintain their right to education stemmed from reference in the numbered treaties, while the Crown chose to make no reference to its treaty commitment and instead, relied upon the Indian Act, its own legislation, to provide educational services, which were often subservient to the Crown's financial priorities and national issues.

The Indian Act, which came into force in 1876, consolidated previous colonial legislation and "impose[d] Euro-Canadian social organization and cultural values, [or] English common law" on First Nations (Carter, 1999, p. 116). Subsequent amendments to the Indian Act formalized educational practices of the dominant society in order to "civilize . . . protect and cherish this helpless Race" (Dickason, 1996, p. 225). In this way, Canada established its own policy parameters and resource levels relating to the provision of educational services for First Nations.

Circumventing the treaties and its constitutional responsibility, Canada defined educational services in the Indian Act Section 114 to 122. Section 114 (1) states:

114. (1) The Governor in Council may authorize the Minister, in accordance with this Act, to enter into agreements on behalf of Her Majesty for the education in accordance with this Act of Indian children with
(a) the government of a province,

(b) the Commissioner of the Northwest Territories,
(c) the Commissioner of the Yukon Territory,
(d) the Commissioner of Nunavut,
(e) a public or separate school board, and
(f) a religious or charitable organization. (Imai, 1998, pp. 106-107).

The act further states that "the Minister may, in accordance with this Act, establish, operate and maintain schools for Indian children" (Imai, 1998, p. 107). Thus the Department of Indian Affairs administers, directly or indirectly, elementary and secondary educational services as a statutory right. Because the Indian Act does not reference post-secondary education, the federal government argues that its support for post-secondary education is only a policy initiative within the parameters of a capped financial allocation. This arbitrary separation of educational services further emphasizes the division between the Crown and First Nations who negotiated the treaty right to education within their belief of life-long learning. Treaty 7 Elders "believe[d] that the education rights negotiated at the treaties assured them free education at all levels and in perpetuity in return for the use of the land by the newcomers" (Treaty 7 Elders & Tribal Council, 1996, p. 302).

THE TREATY EDUCATION CLAUSE

Treaties 1 to 7 vary little from each other in the written form. In reference to education, school, schools for instruction, and teachers to instruct, the treaties give similar meaning in each statement relating to the treaty right to education. The Crown's education commitment in Treaty 1, 1871, states, "Her Majesty agrees to maintain a school on each reserve hereby made, whenever the Indians of the reserve should desire it" (Morris, 1991/1880, p. 315). From the outset, Treaties 1 and 2 established both the treaty right to and policy context for the provision of educational services when First Nations requested them. As well, the treaties established the Crown's fiduciary obligation for First Nation education. The treaties gave the First Nations responsibility for the implementation and control of education, and when and where educational services were to be provided. Treaty 3 (1873), and subsequently Treaty 5 (1875) and Treaty 6 (1876), state: "Her Majesty agrees to maintain schools for instruction in such reserves hereby made as to her Government of her Dominion of Canada may seem advisable, whenever the Indians of the reserve shall desire it" (Morris, 1991/1880, p. 323). Although Treaties 3, 5, and 6 included the words *schools* and

instruction, the written treaty documents decreased the Crown's commitment to First Nations education because education was to be provided only when "Canada may seem advisable," not as the earlier treaties had stated, when "Indians of the reserve should desire" education (Morris, 1991/1880, p. 323). In 1874, the educational clause for Treaty 4 stated: "Her Majesty agrees to maintain a school in the reserve, allotted to each band, as soon as they settle on said reserve, and are prepared for a teacher" (Morris, 1991/1880, p. 333). Similar to Treaties 3, 5, and 6, Treaty 4 committed Canada to maintain a school specifically on each reserve; however, Treaty 4 contained the proviso that First Nations would define when they were prepared or wanted formal education for their people. Treaty 7, negotiated in 1877, did not mention schools; rather the Crown agreed "to pay the salary of such teachers to instruct the children of said Indians" (Morris, 1991/1880, p. 371).

Although the educational clauses in Treaties 1 to 7 are terse, they clearly identify the Crown's responsibility to provide both a physical building and teachers to instruct "Indians." Furthermore, the Treaty educational clauses establish educational policy—the availability of educational services whenever "Indians" desired such services—and emphasize the Crown's fiduciary obligation to provide educational services.

At the treaty negotiations, both the Crown and First Nations made reference to the fact that education would be for the future prosperity of First Nations. Adams G. Archibald, Treaty Commissioner for Treaty 1 and 2, believed that the commitment to education opened "up to [First Nations] . . . a future of promise, based upon the foundations of instruction" (Morris, 1991/1880, preface). Furthermore, Archibald believed that education would enable First Nations to "live in comfort . . . [so] you can live and prosper and provide" (Morris, 1991/1880, p. 28). In order to do so, the Chief of Lac Seul requested a "school-master to be sent them to teach their children" (Morris, 1991/1880, p. 49).

The oral and written accounts of the treaty negotiations add to an understanding of the Crown's fiduciary responsibility to provide educational services. At the North West Angle treaty meeting, Archibald's successor, Alexander Morris, told the people gathered for the signing of Treaty 3, "I will also establish schools whenever any band asks for them, so that your children may have the learning of the white man" (Morris, 1991/1880, p. 58). Clarifying his statement, Morris added, "Whenever you go to a Reserve, the Queen will be ready to give you a school and schoolmaster" (p. 93). At the Treaty 6 negotiations, Morris stated, "[Y]our children will be taught, and then they will be as well able to take care of

themselves as the whites around them" (p. 213). At this same meeting, the Crees showed the influence of the Christian missionaries by listing among their demands "a school teacher of whatever denomination we belong to" (p. 215). Morris replied to this request, "You ask for school teachers. . . . I had already promised you that when you settle down, and there were enough children, schools would be maintained" (p. 217). In reference to the Treaty 6 negotiations, Morris wrote that "the universal demand for teachers" was "encouraging," and furthermore that "the Government can supply" (p. 194) such a demand. At the Treaty 4 gathering, as the Crown's chief negotiator, Morris stated: "You are the subjects of the Queen . . . [S]he is always just and true. What she promises never changes" (p. 94). Promises that Morris reiterated were

not for to-day only but for to-morrow, not only for you but for your children born and unborn, and the promises we make will be carried out as long as the sun shines above and the water flows in the ocean. (Morris, 1991/1880, p. 96)

Morris clearly stated the Crown's treaty commitments were not limited by time, and the quality of educational opportunity would be equitable with non-Aboriginal educational services. The passage of time limited the Crown's commitment; however, First Nations did not forget. Oral history kept alive the Crown's treaty commitment. A Treaty 7 Elder in 2000 stated, "The [Treaty] Commissioners said education would always be available to all our people. . . . All people would learn to speak English: all people would be provided with an alternative [because] our traditional livelihood was taken away" (Carr-Stewart, 2001, p. 233). To the chiefs and headmen who negotiated the treaties, education was a holistic, life-long process. The Elders I interviewed for another study (Carr-Stewart, 2001) stated that their ancestors who signed the numbered treaties believed "the whiteman's education was for life" (p. 233). Providing further context for the education clause, one Elder in my study stated, "The missionaries taught everyone [adults and children]; that is what our People understood formal education to be" (p. 233). The Crown's commitment to provide formal education (schools and instruction) built upon community educational practices of life-long education and added western formal instruction to traditional educational practices.

Our ancestors taught their children how to hunt, snare . . . [which] were our traditional means of survival. Our [means of] survival were taken away from us and the government promised us education for future success. The government is obliged to provide education as the treaty said. (Carr-Stewart, 2001, p. 233)

CANADIAN GOVERNMENT INDIAN POLICY

David Laird, who replaced Morris as treaty commissioner, travelled in September, 1877, to Blackfoot Crossing for the Treaty 7 negotiations. Previously, minister of the interior from 1873 to 1876, he had been deeply involved in Canadian Indian policy. He championed the Indian Act through Parliament, legislation that created a uniform approach "in control and management of the reserves, lands, moneys and property of Indians in Canada" (*Indian Act*, 1876, sec. 2, as cited in De Brou & Waiser, 1992, p. 96). The act negotiated after the signing of Treaties 1 to 5 made no reference to treaty commitments nor did it refer to schools or education, other than in relation to the authority of Chief and Councils to establish rules and regulations for "the construction and repair of school houses" (*Indian Act*, 1876, sec. 63 [6], as cited in De Brou & Waiser, 1992, p. 99). Was this simply an oversight or intentional omission in the legislation by the Imperial government? Was the reference in the Indian Act to the Chief and Councils' authority to determine where and when to construct schools a recognition of First Nations' control and involvement in formal education?

The written treaties clearly stipulated the Imperial government's responsibility to construct schools on each reserve when First Nations requested it; however, when the Broken Head River First Nation, a member of Treaty 1, requested a school, Laird's response indicated the government's intent to minimize its commitment to the treaty provisions and clarified the government's policy regarding school construction: "[T]he Government is not bound under the Treaty to erect a schoolhouse on each Reserve, and that the Government consider their obligation in this respect discharged by the payment of a school teacher on each Reserve" (Provincial Archives of Manitoba, MG.12.B2, box 2/4.934). Laird's written statement contradicts the Crown's commitment in Treaties 1 to 5 to construct schools on each reserve. As minister of the interior, Laird spoke on behalf of the government of Canada when he responded to the Broken Head River First Nation. His response indicated the government's policy decision to evade its obligation to implement the Treaty commitment to school construction.

Laird was subsequently appointed governor of the North-West Territories and the Crown's chief negotiator for Treaty 7. The wording relating to education in Treaty 7 is very similar to that in his letter of February 19, 1875. Treaty 7 states, "Her Majesty agrees to pay the salary of such teachers to instruct the children of said Indians as to her Government of Canada may seem advisable" (Morris, 1991/1880, p. 371). The Treaty 7 education clause makes no reference to school construction, only of the

provision for teachers. Thirty years later, however, in his booklet *Our Indian Treaties*, Laird commented, "the terms granted under the Treaties were [that] schools were also to be established" (Laird, 1905, p. 6).

NUMBERED TREATIES IN ABEYANCE

As the 19th century drew to a close, the solemn treaty promises faded from the government's agenda. With its emerging statehood, 19th century liberalism, and the belief in both the individual and in progress, Canada did not appreciate "the essential nature of the differences between his own society and outlook" (Carr, 1961, pp. 53–54) and prairie First Nations. Focused on nation building, Canada failed to honour Imperial treaty commitments and, in so doing, it failed to comply with the rule of law. The Supreme Court of Canada has "affirmed that the principles of constitutionalism and the rule of law . . . [are] a fundamental postulate of our constitutional structure" (as cited in Henderson, Benson, & Findlay, 2000, p. 335). Furthermore, Henderson et al. (2000) in *Aboriginal Tenure in the Constitution of Canada* argued that the Court in reference "to the rule of law 'vouchsafes' to the citizens and residents of the country a stable, predictable, and ordered society in which to conduct their affairs. It provides a shield for individuals from arbitrary state action" (p. 335). By enacting the Indian Act, and by defining (within its own parameters) its relationship with and program support of First Nations, the Crown failed to protect First Nations from "arbitrary state action" (p. 335).

A FUNDAMENTAL RIGHT TO EDUCATION

The 1867 *Constitution Act*, section 91 (24), vested all legislative authority for Indians and Indian lands in the federal government. As a result, First Nations education was defined as a federal responsibility and separate from provincial responsibility for education (sec. 93). By the late 19th century, law in Britain and Canada recognized the right of all children to education within the context of English common law tradition: the state's "obligation to individuals to educate children" was entrenched (Foley, 1973, p.1). The right of all non-Aboriginal children to education was surely applicable to First Nations children as a part of their treaty and constitutional rights and Canada was required to act in the children's best interest. Although the Constitution identified the federal responsibility for First Nations education, separate from provincial educational responsibility, First Nations educational services arguably ought to be

equitable with those provided under the auspices of various provincial education acts and policy documents. However, Canada did not create any specific educational legislation; rather, the government administered all matters relating to education under the umbrella of the Indian Act. From time to time, Canada established educational policies and procedures in the form of directives and circulars but failed to provide both educational services and educational resources — staff, schools, and material resources — equitable with those provided by provincial educational systems. First Nations students were denied the educational programming and opportunities which facilitated similar achievement levels as their non-Aboriginal peers. The separate educational system and lack of educational attainment was identified in a study of the 1921 Canada Census: "The Indians are only very slightly connected with the education efforts of the different provinces, the responsibility for their education lying with the Dominion and private denominational institutions (Dominion Bureau of Statistics, 1926, p. 38). Furthermore, the study stated the inclusion of literacy statistics for the First Nations population in Canadian statistics as a whole was "most misleading" (p. 38), particularly when Canada's educational attainments were compared to other countries. Little changed over the decades. McMurtry (1985) in a study of the 1946–1948 Joint Committee of the Senate and House of Commons on the Indian Acts summarized the general tone of the submissions on the state of First Nations schools:

Notoriously underfunded, poorly equipped and constructed, [and teachers were] paid less than their colleagues in neighbouring public schools. The residential schools attracted great criticism because of the half-day labor system [which] obliged the children to work in the fields, sew, clean, etc. for several hours each day, thereby greatly restricting classroom time. (McMurtry, 1985, p. 61)

The failure of the federal government to fulfil its constitutional and treaty responsibility for First Nations education was raised in the House of Commons:

While there are 130,000 Indians in the country, our education and training of these people take care of only about 16,000. Of this number enrolled, only 883 reach grade 7, 324 reach grade 8, and seventy-one reach grade 9. I notice in three of the provinces there are no grade 9 students. (*House of Commons Debates*, 1946, p. 5489)

Two decades later, the gloomy picture of educational services and levels were relatively unchanged. The demand for change was to erupt from First Nations in part as a reaction to federal Liberal policy. In 1969, the Liberal government, in search of a "just society," introduced a policy paper

that proposed transfer of responsibility for First Nations education to the provinces. First Nations viewed this as an attempt to eradicate their special status and an example of the failure by Canada "to honour commitments for treaties signed with the Indians" (Cardinal, 1969, pp. 16–17). First Nations joined together to protest the 1969 White Paper and espoused their allegiance to and defence of their specific treaties with the Crown.

LEGAL REMEDIES

The Chief of the Blood Tribe, the late Jim Shot on Both Sides, addressed the 1960-1961 Parliamentary Joint Committee on Indian Affairs and reminded his audience of the Crown's treaty commitments: "Many moons ago your forefathers and mine took each other by the hand and entered into a treaty" (Joint Committee, 1960, p. 970). It was two decades later, however, as a consequence of court rulings, before Canada paid heed to the treaties. It was ultimately the Supreme Court of Canada that brought to the forefront the treaty agreements. Although the Court decisions have, for the most part, dealt with the treaty right to hunt and fish, the courts have looked at the totality of the event of treaty-making, not simply the specific words, and in so doing have established a more complete understanding of the treaty-making process. Isaac (1995) wrote, "In addition to actual terms of a treaty, the minutes of meetings at which negotiations took place and events leading up to the signing of a treaty have been interpreted to convey rights" (p. 236). To support his argument, Isaac used the example of *R*. v. *Taylor*, 1981, in which the Ontario Court of Appeal found that

[A]lthough the written terms of an 1818 treaty did not contain a guarantee of hunting and fishing rights, the minutes of the council meeting between the Deputy Superintendent of Indian Affairs and the chiefs of the six tribes who were parties to the treaty reveal that hunting and fishing rights on Crown lands in areas covered by the treaty were retained by the tribes. (p. 236)

The *Sioui* ruling by the Supreme Court of Canada in 1990 also looked at the totality of treaty-making. In making its judgement, the Supreme Court referenced General Murray's 1760 letter to the Hurons in which the Crown's representative assured them of the "free Exercise of their Religion, [and] their Customs" (as cited in Isaac, p. 130). The *Sioui* decision upheld the rights of the Huron descendants to practise their religion and customs in their traditional locale because the intention of Murray's letter was to create mutually binding obligations of primary importance. The Supreme Court's

decision is significant in relation to education as a treaty right, for *Sioui*

> strengthen[ed] the value of treaty rights, writing into Canadian jurisprudence the words "the treaty must . . . be construed, not according to the technical meaning of its words by learned lawyers, but in the sense in which they would naturally be understood by the Indians." (Kulchyski, 1994, p. 183)

In 1996, in *R.* v. *Badger*, "the Supreme Court addressed the relationship between treaty rights and rights in privately-owned land; between treaty rights on the Prairies and the Natural Resources Transfer Agreement [N.R.T.A.] of 1930; between N.R.T.A. and s. 35(1) of the *Constitution Act*, 1982; and between treaty rights and section 35(1)" (Elliott, 1994, p. 45). The case arose when three Treaty 8 members were charged and convicted under the Alberta Wildlife Act for shooting a moose out of season. The Supreme Court ruled that one of the hunters had an existing treaty right to hunt, a right to which Section 35 of the Constitution Act applied. In its ruling, the Supreme Court stated:

> First, it must be remembered that a treaty represents an exchange of solemn promises between the Crown and the various Indian nations. It is an agreement whose nature is sacred. . . . Second, the honour of the Crown is always at stake in its dealing with Indian people. . . . It is always assumed that the Crown intends to fulfil its promises. . . . Third, any ambiguities or doubtful expressions in the wording of the treaty or document must be resolved in favour of the Indians. (as cited in Elliott, 1994, p. 45)

During the numbered treaty negotiations, the treaty commissioners specified that the Canadian government, in the right of Queen Victoria, would provide education/instruction for First Nations as evidenced in Morris' report of the Treaty 4 negotiations: "I will also establish schools whenever any band asks for them, so that your children may have the learning of the white man" (Morris, 1991/1880, p. 58). Judge Berstein wrote in *R.* v. *Battisse* that

> The courts must not assume that His Majesty's [Treaty] Commissioners were attempting to trick or fool the Indians into signing an agreement under false pretences. . . . Ambiguity should be resolved in favour of the Indians. (as cited in Isaac, 1995, p. 102)

In 1982, the Canadian Constitution was repatriated and amended. The Constitution, Section 35 (1) recognized and affirmed existing aboriginal treaty rights as follows: "The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed" (*Constitution Act*, Schedule B of the *Canada Act*, 1982, as cited in Isaac,

1995, p. 306).

Although the Constitution Act did not define treaty rights, the recognition of treaty rights solidified the government's fiduciary relationship with First Nations dating back to the Mi'kmaq treaties and the Royal Proclamation of 1763 and subsequent special relationships, whether historical, political, legal, or socioeconomic which developed between the Crown and First Nations people (Isaac, 1995, p. 167). The Constitution Act gave "explicit protection for existing Aboriginal and treaty rights" (Henderson et al., 2000, p. 337). Furthermore, Henderson et al. argued that

The "promise" of section 35, as it was termed in *R. v. Sparrow*, recognized not only the ancient occupation of land by Aboriginal peoples, but also their contribution to the building of Canada, and the special commitments made to them by successive governments. The protection of these rights reflects an important underlying constitutional value. (p. 337)

In 1982 Slattery (as cited in Isaac, 1995), wrote, "the Crown has a general fiduciary duty toward native people to protect them in the enjoyment of their aboriginal rights" (pp. 167–168). The courts in *R. v. Guerin* brought the fiduciary responsibility of Canada in Aboriginal matters to the forefront. The Supreme Court of Canada held that "the federal Crown must act in the best interests of Indian peoples when dealing with Indian property and lands" (Isaac, 1995, p. 167). Five years later, *R. v. Sparrow* further defined the Crown's fiduciary responsibility. In his decision Judge Dickson wrote:

The Government has the responsibility to act in a fiduciary capacity with the respect to aboriginal peoples. The relationship between the Government and aboriginals is trust-like, rather than adversarial, and contemporary recognition and affirmation of aboriginal rights must be defined in light of this historic relationship. (as cited in Isaac, 1995, p. 169)

In December, 1997, the Supreme Court of Canada rendered one of the most important legal decisions of the century in its ruling on the Gitksan and Wet'suwet'en Aboriginal title in the *Delgamuukw* decision. The ruling dealt with the issue of land title; however, various points of the Chief Justice's statements are applicable in relation to education as a treaty right. The *Delgamuukw* decision stated:

The Crown is under a moral, if not a legal duty, to enter into and conduct . . . negotiations in good faith. Ultimately, it is through negotiated settlements, with good faith and give and take on all sides, reinforced by the judgements of this Court that we will achieve . . . a basic purpose of s. 35 (1) — "the reconciliation of the pre-existence of aboriginal societies with the sovereignty of the Crown." (as cited in Pape & Salter, 1998, p. 8)

The aspect of the *Delgamuukw* decision relating to oral history is significant when considering education as a treaty right. Although the ruling relates to the oral history of the Gitksan and Wet'suwet'en, it serves as a precedent for matters relating to oral history: the very essence of the conflict between Canada and treaty First Nations. The *Delgamuukw* decision noted:

> Notwithstanding the challenges created by the use of oral history as proof of historical fact, the laws of evidence must be adapted in order that this type of evidence can be accommodated and placed on an equal footing with the types of historical evidence that courts are familiar with, which largely consists of documentary evidence. (Pape & Salter, 1998, p. 3)

The Supreme Court decision placed the oral history of First Nations people parallel to the written word. The use of oral history was also upheld in the 1999 Supreme Court's decision in *R.* v. *Marshall.* By acquitting Donald Marshall Jr. of charges relating to fishing eels, the Court supported the treaty right to hunt, fish, and gather as negotiated by the Mi'kmaq and the Crown in 1752. The Court stated it "would allow this appeal [acquittal] because nothing less would uphold the honour and integrity of the Crown in its dealings with the Mi'kmaq people to secure their peace and friendship" (Aboriginal Rights Coalition of British Columbia, 2002, p. I). The oral history of the people of the numbered treaties regarding what was said and negotiated at the treaty meetings gained legal force as a result of the *Badger* and *Delgamuukw* decisions, while the *Marshall* decision reinforced the Crown's responsibility to ensure that negotiated treaty rights are upheld and dealt with consistently, "even if it meant disregarding federal regulations" (Aboriginal Rights Coalition of British Columbia, 2002, p. 1).

THE DICHOTOMY

Two nations purposely entered treaty making, each to secure a mutually acceptable agreement, which resulted in the surrender of traditional land in exchange for reserve lands, one-time provisions, treaty payments, and services including the provision of education. The treaty right to education was an incumbrance on the land transfer "for as long as the sun shines above and the water flows in the ocean" (Morris, 1991/1880, p. 96).

The Supreme Court of Canada has recognized "the autonomy and independence of Aboriginal peoples in early North American relations and has provided contemporary protection for treaties formed in the

period" (Borrows & Rotman, 1998, p. 677). The rulings respecting treaty and Aboriginal rights, however, did not occur until the late 20th century. Legal decisions that decreed that "the language used in treaties cannot be construed to prejudice First Nations and furthermore that treaty rights are not only *sui generis* (a unique right) but cannot be described by reducing them to Anglo-Canadian legal terminology" (Reiter, 1995, p. 5). In the *Sparrow* decision, the Supreme Court reminded the Canadian government of its responsibility to act in a fiduciary capacity with respect to aboriginal peoples. "The relationship between the Government and aboriginals is trust-like, rather than adversarial, and the contemporary recognition and affirmation of aboriginal rights must be defined in light of this historic relationship" (as cited in Henderson, Benson & Findlay, 2000, p. 314).

IMPLEMENTATION OF THE TREATY RIGHT TO EDUCATION

For First Nations, the treaties embody their solemn agreement and relationship with the Crown. During Canada's century of avoidance of the treaties, First Nations people kept the treaties alive and continued to press, from time to time, for the fulfilment of the treaty promises, particularly the treaty right to education. The chiefs and headmen who signed the numbered treaties negotiated an educational right complementary to their own Aboriginal teachings. Aware of the instructional practices of the newcomers, they sought to supplement their community educational practices with the linguistic and literacy skills of the settlers. They were, however, dragged into an abyss and forced into an educational system that sought to eliminate their traditional educational practices, languages, culture, and customs, something that had not been a part of the treaty negotiations.

Canada failed to implement the treaty commitment to education. The government left the establishment of day schools to the initiatives of various religious organizations. Canada's policy was to fund schools only after they were constructed, usually by First Nations and missionary groups, with the building materials acquired from the natural resources on the reserves. In the late 1880s, Canada provided limited financial assistance to religious entities towards the establishment of Industrial schools and later Residential schools. These buildings, however, were usually located on isolated areas of the reserve or off-reserve. Such schools not only denied First Nations input into the schools but ignored the treaty commitment that schools would be constructed on reserve whenever First Nations desired.

The treaties promised a system of education equitable with the provincial

system and education was to enable First Nations to secure a "a living for themselves and their children" (Morris, 1991/1880, p. 232). To do so necessitated a federal commitment to First Nations education—including school programming, teacher specialization, and school construction—that, even if based on different constitutional sections and differing organizational format, was equitable with that provided by provincial school systems. Provincial educational rights including denominational schooling are entrenched constitutional rights; however, the treaty right to education has not received the same commitment. As various parliamentary committees during the 20th century and specifically the 1996 Royal Commission on Aboriginal Peoples (RCAP) documented, the level and type of education provided for First Nations students over the past century failed to provide equitable educational opportunities and consequently failed to foster economic prospects for First Nations people (Royal Commission on Aboriginal Peoples, 1996a, p. 38).

In 1894, amendments to clause 11 of the Indian Act empowered the governor-general-in-council to make regulations to enforce the attendance of Indian children at school; however, the government did not officially incorporate the compulsory school attendance clause into the Indian Act until 1920. Despite the government's own legislation requiring compulsory attendance of all Indian children at school, it is clear from the minutes of parliamentary commissions (McMurtry, 1985) that, as late as 1960, school facilities did not exist on numerous reserves across Canada. Schools that did exist were often considered inferior to non-aboriginal schools; programming lacked financial resources; and, similarly, teachers' salaries were below provincial levels (McMurtry, 1985).

The 1970s marked a resurgence of the involvement of First Nations people across Canada in the education of their children. First Nations demanded appropriate quality educational services and "Aboriginal peoples . . . explicitly question[ed] the existing educational system" (Abele, Dittburner & Graham, 2000, p. 6). Although the Canadian government accepted in principle *Indian Control of Indian Education* (1972), it did not change its mode of administering education under the Indian Act. The promise of a treaty right to education, the opportunity not only to gain quality formal education but also at the same time to maintain their own linguistic and cultural identity, remained elusive, as did the opportunity for many First Nations people to participate meaningfully in the Canadian economy.

In the later part of the 20th century, treaty First Nations began to assume administrative control of educational services and schools on reserve; however, in receiving funding from the department of Indian Affairs, they

were required to follow the appropriate provincial curriculum and federal policy guidelines with little opportunity or financial capacity to address community needs. Local control, however, gave a degree of freedom from the external, centralized administration of the federal department.

Despite local control, the rule of law, the supremacy of the Constitution, and court rulings on treaty rights, implementation of education as a treaty right remains unfulfilled. Administrative and financial arrangements between First Nations and the Department of Indian Affairs for band-operated schools and post-secondary education funding are itemized within the policy and governance framework of the Indian Act, the Financial, Administrative Act, and procedures of the Department of Indian Affairs. Only at the insistence of First Nations do funding arrangements and other agreements between First Nations and various federal government departments include a reference that such administrative arrangements do not affect in any manner their treaty right to education. The statement is a reminder of First Nations' constitutionally protected treaty rights; however, it does not give the treaty nations a voice in education equal to or greater than the federal bureaucracy. In 1988, the Assembly of First Nations in *Tradition and Education: Towards a Vision of Our Future*, stated there

is a need for formal national level guarantees of First Nation jurisdiction over First Nations education with full acknowledgment of the federal responsibilities for providing stable and adequate levels of resources for First Nations on a government-to-government basis. First Nations jurisdiction over education must not only be recognized but firmly guaranteed to First Nations as a legal right and responsibility in order for the First Nations to exercise true and meaningful jurisdiction over education at the local level. (Assembly of First Nations, 1988, p. 78)

First Nations continued to demand the provision of education services as a treaty right, a demand that was supported by the 1996 Royal Commission on Aboriginal Peoples [RCAP]. Recommendation 3.5.2 called for significant changes in First Nation education:

Federal, provincial and territorial governments collaborate with Aboriginal government, organizations or education authorities, as appropriate, to support the development of Aboriginally controlled educational systems. (RCAP, 1996b, vol. 3, p. 684)

In relation to education as a treaty right, the Royal Commission [RCAP] recommendation 3.5.20 stated:

The government of Canada recognize and fulfil its obligations to treaty nations by

supporting a full range of education services including post-secondary education, for members of treaty nations where a promise of education appears in treaty texts, related documents or oral histories of the parties involved. (RCAP, 1996b, vol. 3, p. 689)

CONCLUSION

Reflecting recent rulings of the Supreme Court of Canada, the Royal Commission on Aboriginal Peoples recommended the recognition of education as a treaty right. Furthermore, the Royal Commission stated First Nations "want two things from education . . . the skills they need to participate fully in the economy . . . [along] with the knowledge of their languages and traditions necessary for cultural continuity" (RCAP, 1996a, p. 82), a goal similar to that the chiefs and headmen believed they had negotiated as a treaty right to education. To rebalance the political and economic power between aboriginal nations and other Canadian governments, RCAP recommended educational reforms must be implemented immediately to remedy the gap between current educational attainment and community needs (RCAP, 1996a, p. 82). Education must reflect the structure, practices, and vision of First Nations communities. Education is a treaty and constitutional right to be treasured and a process that enables First Nations to blend traditional purposes of education, language, and culture with the skills necessary for collaboration in today's global society.

The issue of the demand for the recognition of education as a treaty right will not dissipate until profound educational changes occur: including appropriate funding and effective control beyond merely administrative responsibility for a poorly funded and externally directed education services. First Nations education must reflect the language, traditions, and culture of their communities and receive the resources necessary to ensure quality educational programming, and to ensure educational attainment and foster the "crucial skills for governance and economic self-reliance" (RCAP, 1996b, vol. 5, p.3). Only profound change, financial commitment, and local control of education can eradicate a century of educational neglect. It is time to honour the treaty commitment to education.

NOTES

1   Although the term *Indian* was used at the time the treaties were being negotiated, I use the term *First Nations* interchangeably for purpose of this paper.

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Canadian Identity and Curriculum Theory: An Ecological, Postmodern Perspective

Dennis Sumara, Brent Davis and Linda Laidlaw

In this article, we develop the thesis that curriculum studies work in Canada might be characterized in terms of some persistent and consistent theoretical commitments, ones that we suggest might have been prompted in part by the nation's history and by popular commentaries on national identity. We draw on ecological and postmodern discourses in efforts to conceptualize and to describe a relationship between Canadian culture(s) and the development of theories of curriculum within the Canadian context.

Cet article avance l'hypothèse que les études du curriculum au Canada peuvent être vues comme des engagements continus et cohérents qui ont été en partie suscités par l'histoire du pays et des idées courantes sur l'identité nationale. Les auteurs s'inspirent de discours écologiques et postmodernes en vue d'établir un lien entre les cultures canadiennes et le développement de théories du curriculum dans le contexte canadien.

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PART 1: AS CANADIAN AS . . .

In a 1960s radio contest, Peter Gzowski of the Canadian Broadcasting Corporation challenged the nation: "Complete the adage, As Canadian as . . . ."

Apparently most listeners heard the contest as a quest for something quintessentially Canadian — a symbol to fit our nation the way the adage "mom and apple pie" describes the American character. Most submissions were predictable: a fresh snowfall; eh?; the Mounties. The contest judges, however, were not convinced that "Canadianism" could be captured by a single image: The winner was "As Canadian as possible under the circumstances."

The winning adage hints that an essential quality of Canada is a lack of essential qualities. At least, Canadians would prefer not to identify those qualities that we imagine might pin us to a particular way of identifying ourselves. To appreciate the sort of curriculum theorizing that has occurred in Canada, one must first have a sense of the deliberate diversity that is represented among the nation's peoples, its territories, its climates, and so on.

We frame this effort at redescription with the idea of "ecological postmodernism." Both *ecology* and *postmodernism* have risen to considerable prominence in academic circles over the past few decades. Although deriving from somewhat different sources, ecology principally from the sciences and postmodernism principally from the arts and humanities, some interesting compatibilities among these frames exist.

Over the past two decades, postmodern and ecological perspectives have figured prominently in curriculum-theory literature. As Pinar, Reynolds, Slattery, and Taubman (1995) develop, these and a host of other contemporary discourses have been taken up recently, for the most part, in the service of a broad critique of the unified, logical, and totalized conceptions of reality that modernist and analytic philosophies project. As might be expected, there are critics of this shift in sensibility (e.g., Muller, 2000; Wraga, 1999). Announced concerns revolve around the tentativeness and self-imposed constraints of emergent discourses. Detractors worry that such delimited perspectives risk a descent into an 'anything goes' relativism.

Such criticisms and concerns appear to have some justification, especially as postmodern, ecological, and other discourses have been used in conjunction with, for example, trivialized constructivist accounts of learning (see von Glasersfeld's [1995] critique) or populist versions of critical and emancipatory pedagogies (see Ellsworth's [1988] critique). As educational researchers, we share this concern that an overzealous embrace of radically different ways of thinking has contributed to the rise of new, but not necessarily more informed, classroom orthodoxies.

However, at the same time, we find ourselves taken aback at the sometimes virulent responses of some educational researchers to emergent theoretical discourses. This puzzlement is re-emphasized each year as we contrast the topics and manners of presentation at academic conferences inside and outside Canada. Although meetings of Canadian educational researchers are not without their heated moments, we are under the strong impression that the sorts of ongoing territorial disputes and border skirmishes that we witness at American meetings simply do not occur with the same frequency in Canada—despite the fact that the conceptual diversity among Canadian theorists is at least as broad as that of Americans. (This point is underscored by the disproportionate representation of Canadians in such synoptic texts as Pinar et al., 1995.[1])

We have developed a working hypothesis to help account for the different ways that such ideas seem to be taken up on opposite sides of the Canada-U.S. border. This difference might have something to do with popular habits of Canadian self-identification. In this article, we develop

this hypothesis by foregrounding and tracing some of what might be described as Canadian cultural mythology. More specifically, we draw on popular mythologies to understand how they might be knitted through the sorts of curriculum theorizing that Canadian educators have taken up and developed.

In identifying this project, we do not mean to essentialize or reify a Canadian identity. Our intention is quite the opposite, in fact. While we do draw on stereotypes, established histories, and popular media depictions, the aim is not to interrogate, validate, or uncritically embrace such representations, but to investigate the work that they do with regard to the issue of Canadian self-identification. The premise is not that popularized conceptions of Canadian identity can capture the complexity of Canadian history and culture, but that they are part of a common sense that is influential.

In other words, we do not imagine there to be a quintessential Canadian identity. Nor is it our intention to map out a conclusive argument or a linear narrative that specifies relationships among historic, geographic, or political circumstances and curriculum theory. However, while we explicitly reject the suggestions that theory is *determined by* situation, we believe theory to be *dependent on* situation. Therefore, we are interested in useful (re)description, not totalized explanation.

On that count, we do not invoke ecology and postmodernism to account for a Canadian identity (or lack thereof). Such discourses do not offer explanatory principles. Instead, we are trying to show how the discourses of postmodernism and ecology offer interesting vocabularies for redescribing and reconceptualizing a relationship between Canadian history and culture, and curriculum theory in Canada. Although we offer a number of examples of persons working in the field of curriculum theory in Canada, we have not aimed to provide synoptic review. Rather than providing a comprehensive overview of curriculum theory in Canada, we use citations to support our central thesis.

Postmodernism and the Example of Canada

Neither ecology nor postmodernism can be construed as a consistent or fully coherent discourse. This is particularly the case with postmodernism, which tends to be defined more in terms of what it isn't than what it is. That is, postmodernism isn't modernism (Borgmann, 1992; Madison, 1988; Taylor, 1991). It is thus a rejection of the belief that the universe is unified, finished, and available to a totalized explanation through analytic method. Instead, postmodernism posits that we live in a world of partial knowledge,

local narratives, situated truths, and evolving identities (Lyotard, 1984).

The world of the postmodern is relentlessly temporary and endlessly contemporary. It is a constantly emerging reality; one in which metaphor, rather than the logical proposition, is the main means of dealing with collisions between history and memory, language, and geography. As such, postmodern theories are primarily interested in how humans continuously adapt to new conditions of experiences and, at the same time, reinterpret the past. A postmodern sensibility demands endless reinterpretation of conditions and antecedents. There are, it seems, no universal truths and no grand unifying themes in this postmodern world. Except for one: The diversity of postmodern discourses and practices join in a rejection of modernist claims to reductive and totalizing truths.

On one level, this point of agreement announces a generously diverse range of conceptual possibilities. In repudiating the quest to locate a single narrative to represent conditions of humanity, postmodernists have either rediscovered or invented important interpretive tools (see, e.g. Lather, 1991). On another level, however, an uncritical embrace of interpretive multiplicity can quickly take on the character of naïve relativism. In a world still dominated by modernist sensibilities and structures, this latter interpretation is most often assigned to anything postmodern: unanchored, uninformed, incoherent.

Within this frame, an interesting parallel emerges between postmodern discourse and attempts to characterize Canada and Canadian identity. As might be interpreted from the CBC contest, the issue of "who we are" receives a good deal of air play in Canada. Despite the endless discussion, there seems to be only one point of real consensus. While Canadians can't seem to agree on what they are, they have no trouble at all agreeing on what they're not. That is, Canadians seem to define themselves in very much the same terms as postmodernism is defined. This practice of differentiation is not limited to national identities: regional and other forms of variation among Canadian groups and individuals are noticed and represented. Indeed, as will be developed, such variations are inscribed into our legal and educational systems.

To state it concisely, discussions around Canadian identity tend to cluster around claims that Canadians are not overbearing, not totalizing, not monolithic, not unified, not static: or, put more bluntly, Canadians are not Americans. Just as postmodern thought represents an explicit rejection of modernism's two-way mirror of inward-looking rationalism and outward-looking empiricism, so popular Canadian self-definition might be read as an explicit rejection of what is seen as Americanism's two-way mirror of inward-looking nationalism and outward-looking imperialism.

This point was underscored in a highly successful beer advertisement appearing several years previously, which, as such televised commercials often go, had nothing to do (explicitly) with beer. Referred to as "The Rant," the ad featured a young man demonstrating the very Canadian habit of defining national identity in terms of what it is not. Midway through he declares, "I believe in peace-keeping, not policing. Diversity, not assimilation." Although never overtly stated, Canadians did not miss the implication that the nation more given to policing and assimilation was the United States of America.

Ecology and the Example of Canada

"The Rant" begins with, "I'm not a lumberjack or a fur trader. And I don't live in an igloo, or eat blubber, or own a dogsled."

This is, of course, a statement about popular Canadian perceptions of the typical American's knowledge of Canada. Anyone who has visited the Canadian Pavilion at the Epcot Center in Florida's Disneyworld would appreciate this objection. There, Canada is represented by a trading post staffed by people clad in the familiar red and black plaid of lumberjacks. The trinkets for sale are mainly coon-skin hats, plush beavers and moose, plastic Mounties, toy rifles with eagle feathers, snowshoes, mittens, maple syrup, and the like. This image of Canada is complemented by a 20-minute 360° movie, given to sweeps over mountains, forests, tundra, and prairie.

Stereotypical representations aside, it is no surprise that climate, geography, and natural resources figure so prominently in these instances of cultural marking. Canada is a resource-rich, geographically diverse, northern country. The topic of the weather, in particular, never seems far from mind.

Such references are not simply matters of environmental awareness. They are, rather, indicative of a certain ecological sensibility. To draw an important distinction, *environmental* and *ecological* announce two very different ways of thinking. "Environmental" implies a separation of observer and observed, as it points to concerns with surroundings. In contrast, "ecological" is about relationships, with particular attention to the complex co-evolutions of humans and the more-than-human world (Abram, 1996). The ecologist is interested in the continually evolving relationships of biological and phenomenological worlds, an attention that Merleau-Ponty (1962) described as double-embodiment.

The intertwinings of human and more-than-human have particular relevance to Canadians, for whom physical contexts occupy a large part of our attention. Historically, the European settlers who first tried to hunt

and farm these lands were dismayed to learn that Canadian winters were longer and much more severe than those they had known, and that things only seemed to become worse as they pressed westward. Much of the early journal writing by explorers, fur traders, lumberjacks, and homesteaders focused on the challenges of accommodating to the Canadian climate. Despite the fact that we can now control our exposures to such conditions, our habit of talking about the weather continues. As Chambers (1999) notes, an enduring theme in Canadian literature is how physical setting is woven into the psyche. The unpredictable, uncontrollable, and unrelenting characters of landscape, climate, and weather are particularly present in novels and memoirs written in Canada.

In Canadian literature, many works reflect strong interests in the physical, particularly with how human bodies are tied to environmental circumstances. Many of our most prominent works, for example, Ondaatje's *The English Patient* (1992), Michaels *Fugitive Pieces* (1996), and Urquhart's *The Underpainter* (1997), are developed around the struggles of characters to maintain a coherent personal and collective sense of identity as they age and ail within unforgiving environmental conditions. While this theme is not restricted to Canadian writers, Canadian literary workers tend to share interests in the complex ways that the biological, the geographical, and the phenomenological co-develop.

Ecological Postmodernism and the Example of Canada

With an emphasis on examining the evolving web of interactions that constitute human relations within the more-than-human world, postmodern discourses provide support for ecological discourses. Some postmodern theorists and philosophers regard the field of ecology as a subdiscourse of postmodernism (see, e.g., White, 1998). This move, however, is not always embraced by ecologists themselves, as reflected in contemporary work in ecology that has provided a potent criticism of some postmodern thought. Such discourses, it is argued, tend to be too narrowly focused on the social and the cultural, that is, on the bounded realm of immediate human concern and activity, on the already noticed objects of consciousness (see, e.g., Merchant, 1994). This criticism is especially relevant when it comes to questions of personal knowing and collective knowledge. In particular, ecological thought rejects the mantra of what might be considered *postmodern social constructivism*: All knowledge is socially constructed.

The postmodern social constructivist formulation has figured prominently in the academy since the late 1960s, so much so that it is now

regarded in many circles to be commonsense. Many ecologists have noted, however, that such an assertion implies a narrow conception of knowledge, one in which all knowing is seen to occur within realms of human sociality. That is, if all knowledge is understood to be socially constructed, then it makes no sense to suggest that hearts know how to beat, beavers know how to build dams, ecosystems know how to recover from unexpected perturbations, and so on. These examples of knowing and knowledge compel an elaboration of contemporary postmodern discourses, an awareness which in turn should broaden the ways that learning and schooling are discussed.

We offer these linguistic moves, that is, the distinction between *environmental* and *ecological* and the elaboration of *postmodern* concerns through *ecological* discourses, to characterize what we perceive as trends in curriculum theorizing in Canada. For many persons working in the field of curriculum theory in Canada, there is an attention to the complex, co-specifying, mutually affective relationships between actor and circumstance. (See, for example, the work of theorists such as Chambers, 1999; Smith, 1999; van Manen, 1990; Jardine, 1992). Curriculum theorists in Canada, then, are not so much interested in representing the objects, personalities, or content of their inquiries. Rather, they seem to be fascinated by projects of showing the usually invisible relations among these.

It is our impression that much curriculum theorizing in Canada might be described as representing a sort of ecological postmodernism. In addition to curriculum theory, cultural studies, various critical discourses, and continental and pragmatist philosophies, which are domains that have drawn from and influenced postmodernist discourse, ecological postmodernism includes developments in biology, meteorology, geography, geology, neurology, immunology, cognitive studies, and mathematics. The term ecological postmodernism in itself represents an attempt to refuse a dissociation of the biological and the phenomenological, an effort reflected in such recently invented terms as geoepistemology, ecosophy, biomythography, bioethics, neurotheology, ecopsychology, and ecopolitics.

This embrace of theories to account for the complexity of human interaction with the more-than-human world has been represented in curriculum theory in Canada in many ways. In Canada, the moment one raises issues of identity, knowledge, and history — the subject matters of curriculum—one enters the realm of the contextually dependent, the negotiated, and the compromised. Following a long history of learning to create a nation by stitching together geographies, climates, cultures, ethnicities, and languages, curriculum theorists in Canada seem to have

learned that meanings and identities are not discovered, nor can they be fully represented. As Canadian historian and political analyst John Ralston Saul (2001) notes, Canada embraced organizing ideas that have only recently been supported by both postmodernism and complexity theories:

Canadians still see themselves as a society of minorities. They are constantly balancing the centre, the regions, the language groups, and even the importance of the population versus the land. It seems that they believe that taking responsibility for minorities is one of government's principal jobs. (p. A13)

For Canadians, this has meant being prepared to live with a certain sense of ambiguity, a belief that the nation and the identities of Canadians are continually being created. As Saul (2001) suggests, the country's continued success in maintaining a nation state has been Canadian's embracing of the idea that nations are made of collections of minority groups and interests, whose identities are continually shaped by the overlappings of history, geography, memory, and language. This point might be better framed by a brief tour through some popular interpretations of moments in Canada's knotted past.

PART 2: . . . POSSIBLE, UNDER THE CIRCUMSTANCES.

Because we, the authors, have lived significant parts of our lives in different regions of Canada, it has become clear to us that the experience of Canadian identity shifts with changes in geography and language. In Canada, we might not be able to say much about what it means to be a Canadian, but we can, and often do, make clear distinctions among ourselves in terms of region, language, history, and culture. To name only a few examples: Atlantic Maritimers, Francophones in Quebec, Manitoba, New Brunswick, or Ontario, central Canadian urbanites, Aboriginal Canadians (distinguished by region, history, language, and culture). The particularly Canadian patchwork of identities is also alluded to in the descriptive terms cultural pastiche or vertical mosaic (Porter, 1965), often used to set us apart from the more American melting pot.

The suggestion here is that the noted lack of essential qualities to Canada and Canadian identity may be linked to a certain extent to circumstances of both history and geography. Canada is a postcolonial country, where significant institutional structures may be traced to their associations with Britain. For example, Canadian federal government is a parliamentary structure inherited from this history, in addition to a continued recognition of the British monarchy. At the same time, the effects of proximity to the

United States have also provided a pervasive influence. Canada maintains strong economic, political, and cultural relationships with the United States. In contrast to the typical American's general knowledge about Canada (or lack thereof), it is not unusual for Canadians to be up to date on the Dow Jones and the NASDAQ, the latest American presidential election and political scandal, or current Hollywood movies and Billboard charts. Of course, affiliations with the United States extend beyond economic ties, political leanings, and/or pop culture. Those of us involved in the Canadian academy conduct much of our intellectual work within structures that are American or, at least, shared with Americans.

But it would be a mistake to think that our primary identifications and affiliations are with the United States. We are also aligned with other nations. The vitae of a curriculum theorist in Canada will likely include presentations at American conferences and publications in American journals alongside publications and presentations in such countries as England, Australia, South Africa, France, or the Netherlands. Such tendencies toward European (and, to a lesser extent, Asian and African) academic identifications are as much rooted in family lineage, through our history of immigration, as in our history of relationships with the United States.

On the Emergence of Canada

The history of Canada's development as a nation, at least in terms of post-European contact, is one that differs considerably from that of the United States. When the American Civil War ended in 1865, the residents of the lands north of the 49th parallel felt that the Union armies might soon turn their expansionist attentions to resource-rich territories of what is now Canada. Confederation in 1867, then, was prompted in part by worries that the smaller colonies in Central Canada and in the Eastern Maritimes were vulnerable to American intrusion. This was not an unwarranted paranoia: a series of border disputes and American attempts at military invasion punctuated Canada's pre-confederation history.

Much of this wariness was linked to Canadian perceptions of the American attitude toward cultural difference. A century before Canada achieved nationhood, for instance, American commentators such as Benjamin Franklin took no pause in their criticisms of the liberal British attitudes that allowed French to be spoken and Roman Catholicism to be practised in an English colony. Franklin, along with others, advocated an invasion of the territories known as Canada, confident that the population would quickly be incorporated into the norms of American culture. Indeed,

the "Quebec Act" of the British parliament, which legislated rights of language and religion for Canada's French population, was one of the final straws, prior to revolution, for Americans set on independence from England.

Canada's cultural and legal commitments to two languages and to distinct cultures predate its official nationhood. Such commitments have given rise to some of the most progressive multicultural policies in the world. With its brief history and its explicit acknowledgment of multi-linguistic and ethnic minorities, Canada has never fallen into the error that it is an ethnic nationalist state, nor has it attempted to project an image of a singular or unified nation. As Ignatieff (2000) and Gwynn (1996) have explained, Canada's national identity has not emerged from a long history of shared ethnic or linguistic experiences, but instead has arisen from complex and innovative rights frameworks, social infrastructures, and government services. While an ethnic nationalist state defines its citizens on the basis of common ancestry, language, religion, customs, and rituals — and, in consequence, places a heavy emphasis on the assimilation of other groups into dominant cultural trends — a nation state like Canada derives its unity from common principles rather than common origins.

We do not suggest that common origins cannot be historically traced, nor that these are not officially recognized. The difficulty for Canada has been that it is a country that has emerged from French and English colonial experiments. Although the British North America Act of 1867 is commonly portrayed as the defining moment for Canada as a country, confederation was more a culmination of long processes of negotiation with French, English, and various independent First Nations, including, for example, the Cree, the Ojibway, the Salish, the Blackfoot, and the Shuswap. Canadian Confederation, then, was not so much prompted by shared ethnic experiences or desires for cultural uniformity or independence. Rather, it emerged from ongoing processes of conflict, co-operation, and conciliation. Embedded in the confederation-defining British North America Act of 1867 are historical traces of the ways in which the Dominion of Canada was pieced together through negotiation. Because the colonial powers and the numerous First Nations could not draw on shared language or ancestry as bases for common understanding, they were compelled to develop policies and principles that would be useful in the ongoing challenges of maintaining a national unity, and which might, at the same time, embrace linguistic and ethnic diversity.

Although Canada is a relatively young nation, members of the colonizing nations have lived in parts of what is now Canada since the 1600s. The French settling of Canada, which originally consisted of the territory along

the St. Lawrence River and, later, around the Great Lakes, occurred alongside the British colonization of the east coast of North America. These two colonial projects met in what the French called Acadia and what the English called Nova Scotia, a region that passed back and forth between the colonizing nations.

During these imperialist expansions, many First Nations groups who had occupied such areas participated actively in alliances with either British or French colonists and sometimes with both, especially under threat of American expansion. While this article is not the place to provide details, it must be noted that the borders separating Canada from the United States were settled through combinations of disputes between the French and the British, other wars to defend Canada from the Americans, and numerous overlapping skirmishes between and among First Nations groups, rebel groups, and soldiers representing France and England. The very existence of the British and French communities depended in large part on alliances and relationships with First Nations groups. The dependencies were more than that of economic relations through the fur trade; early settlers were also heavily reliant on indigenous peoples' knowledge of how to survive the Canadian climatic extremes. Settlers also enlisted warriors who made pivotal contributions in many military campaigns. Despite this, Aboriginal nations were largely forgotten by both the French and the British at the time of confederation, when the founding nations of the country were officially named as England, Scotland, Ireland, and France.

Canada's early history of nation-making began with compulsions to pay attention to the relationships between national identity and attachments to language, to history, to ethnic ritual and memory, and to the material world (including geography) that comprise or contribute to personal identity. Although not made explicit at the time, a principle in the founding of Canada as a nation was that experiences of individuality were inescapably social experiences. To succeed as a nation, Canada needed to develop a system of governance that embraced the notion that identities, individual and collective, were not pre-given or discovered but were continually invented, including the invention of a national character. It is not surprising, then, that Canadians have some difficulty answering the question of what might be considered as quintessentially Canadian. This is not so much because Canadians lack a sense of who they are, but instead, a logical hesitation that emerges from a long history of having to first look around and interpret current circumstances, and compare these to the remembered and the imagined, before attempting to represent current experiences of identity. Canadian identity is not unified or seamless, but

shifts according to the particularity of language, geographical affiliations, and historical circumstances.

On the Emergence of Canadian Curriculum

The history of efforts and events in Canadian curriculum is also inextricably tied to Canada's particular history of nationhood. As Canadian curriculum historian Tomkins (1981) concluded, cultural conflict has been a noticeable theme from the historical beginnings of Canadian schooling, with "bitter social, political and religious controversies which ultimately have hung on the objectives and content, including the materials, of the curriculum" (p. 135). Many examples of struggles have emerged within the history of Canadian schooling: controversies over religion and language, such as demands for separate schools in Upper Canada (the issue of funding for separate schools continues to be controversial in the province of Ontario today); the establishment, and subsequent dismantling, of denominational schools in Newfoundland; the Manitoba Schools Act of 1890.

As with other national institutions mentioned earlier, history and geography have also influenced Canadian educational institutions. Historical trends in curriculum have often mirrored those of the United States or reflected British or French colonial ties. Until after the 1930s, the cultural content of curriculum in English-speaking areas of Canada generally provided a British imperialist or colonial perspective at the expense of addressing Canadian contexts or content (Chambers, 1999). However, the pervasive influence of American curriculum theories began to emerge as Canadian curriculum took up the call of the scientific movement in education in the 1920s, embracing the models of efficiency offered by Ralph Tyler and Franklin Bobbitt (Tomkins, 1979). Here, however, it is also interesting to note a Canadian reluctance to acknowledge this reliance on American ideas, for example:

. . . both in Ontario and British Columbia, the famous British Hadow report of 1926, which ironically acknowledged its own debt to American progressive ideas, was cited in the 1930s as the source of those same ideas. (Tomkins, 1979, p. 9)

In large part the desire to accommodate nations within nations has prompted the formation of formal education in Canada as a shared responsibility of federal and provincial governments, with specific accommodations for local ethnicities, religions, and languages. Public school and post-secondary education in Canada are funded federally, through negotiated transfer payments from the federal government to the

individual provincial governments, and provincially, largely through property taxes and, in the case of post-secondary education, through tuition fees. Each province has a minister of education who is responsible for overseeing educational structures and processes, including the development of curriculum content. While implementation of these structures varies from province to province, in most there are processes of collaboration, regarding matters of education, among representatives from the ministry of education, provincial teachers' organizations, local and provincial teachers' unions, and local school boards and districts. For the most part, and to varying extents, university-based faculties of education also provide input, and, in most provinces, these faculties are also responsible for pre-service, in-service, and post-graduate programs in education.

In our (the authors') home province of Alberta, for example, there is a long history of co-operation and collaboration among a variety of agencies and institutions. The development of school curricula, for example, has been carried out by teams, with representatives from Alberta Learning (the provincial ministry of education), teachers and consultants from school districts across the province, members of the Alberta Teachers' Association, subject area specialists representing organized councils, and professors from university teacher-education institutions. The resulting curriculum documents usually represent the interests and expertise of these groups, with attention given to the most recent research studies in particular learning and teaching areas. Notable, as well, is Canadian researchers' proclivity for interdisciplinarity and for cross-cultural and international interests.[2] The current English language arts curriculum in Alberta, for example, includes innovations drawn from research in North America, Great Britain, Western Europe, Australia, and New Zealand. As well, reading lists include reviewed and approved fiction (in both the English and French languages) from many countries worldwide.

Historically, Alberta's curriculum path has involved multiple influences, echoing a number of the themes we have discussed earlier, in terms of their significance to a Canadian sense of nationhood, or, more accurately, the lack of a definitive sense thereof. Events outside the province as well as those of a more regional nature have, over the years, shaped the development of curriculum.

After joining Confederation in 1905, Alberta acquired a school organization, a program of studies, and financial organization from the North-West Territories. The British-oriented curriculum was one that had originated in Ontario, developed by David C. Goggin, who became superintendent of Alberta in 1893 (Sheehan, 1986). Palmer (1982) notes, as

well, that this imperialistic curriculum was, in part, directed by a fear of the immigrant, in a time when record wheat production and an economic boom invited an increase in population through migration.

By the 1920s, curriculum in Alberta, as in schools elsewhere in Canada, attempted to move away from its focus on the Empire. However, as Stamp (1971) suggests, the variety and availability of American resource materials and textbooks was influential. Although American influences in curriculum might not be actively acknowledged, they were ever-present in the classroom and on school library shelves.

Although education is provincially controlled in Alberta and elsewhere in Canada, curriculum has also been influenced by federal interests and decisions. For example, the 1971 national policy on multiculturalism and the focus on national bilingualism led to an increased emphasis on multiculturalism for instruction in Alberta, and affected curriculum in terms of support for French language instruction across the nation (Sheehan, 1986). These efforts have continued to underline the importance of recognizing and supporting diversity within curriculum

On the Emergence of Canadian Curriculum Theory

One of the earliest and most influential explications of postmodern thought, *The Postmodern Condition* by Jean-François Lyotard (1989), was commissioned in 1979 by Conseil des Universitiés of the government of Quebec. That Quebecers should have enlisted the assistance of a French philosopher for a report on knowledge is indicative not only of strong Canadian ties to Europe, but of Canadians' history of incorporating new threads of thought into the socio-cultural and economic fabric.

On this point, it often seems that writings of Canadian curriculum theorists echo the historical contingencies of Canada's emergence (see, e.g., Aoki, 1991; Barrow, 1978; Egan, 1978; Milburn & Herbert, 1973; Tomkins, 1986). As well, the language used by these theorists tends toward themes of diversity (rather than the bifurcating Otherness) and considered compromise (rather than the domination-seeking standard of the rational argument)—linguistic moves through which writers have attempted to avoid (or at least to trouble) some of the commonsense dichotomies that frame popular discourse. There is also a tendency to embrace what Lyotard (1989) names "*les petits-récits*" (p. xxiv)(roughly translated, small or personal accounts, narratives, or stories, including interpretive cultural histories) rather than grand narratives (e.g., Clifford & Friesen, 1993; Connelly & Clandinin, 1988; Leggo, 1997).

While curriculum theory in Canada continues to be developed by

persons from a wide array of theoretical positions, a diversity that resists simplistic attempts at summary,[3] this theoretical diversity is accommodated, in part, because Canadians have emerged from their history with a sensibility that resonates with postmodern thought. There are deep commitments to the notions that history is layered in the present, that language cannot represent experience, and that translation is difficult.

Put differently, we could say that that ecological postmodern thought has presented a vocabulary that helps Canadians express an already well developed sensibility, one that is woven through our national character. In refusing to say with finality who or what we are, Canadians are able to operate in and through what Rorty (1999) calls final vocabularies — the words we can find at this moment to define ourselves and our situation, but that are constantly at risk of being replaced by new final vocabularies. In academia, this license to use whatever final vocabulary presents itself might appear as a certain opportunism, as Canadian theorists seem to draw readily from emergent and divergent discourses. However, not only have Canadian curriculum theorists been willing to incorporate new vocabularies into the study of educational experience, they have also demonstrated an innovative and rigorous interdisciplinarity.

Canada, it seems, has been uniquely positioned to take advantage of theoretical tools from the United States and from western Europe. In most of our university faculties of education, one finds interdisciplinary theoretical work in which North American and European thought is mixed in provocative ways. Of course, these academic tendencies are not restricted to Canadians. However, our informal comparisons of writing that emerges from Canadian-based curriculum scholars to those from other nations indicate a decidedly more pronounced attention to cross-cultural interdisciplinarity. Indeed, one of the difficulties we have encountered in this writing is one of categorization. The work of some of the theorists mentioned in this article has shifted in terms of how it might be categorized and often changed along with geographical moves. As well, we note that a number of individuals we classify as Canadian curriculum theorists originate from roots outside of Canada, though currently doing their work here, or have left for other geographical contexts, often American. The irony of the difficulty in pigeon-holing Canadian curriculum theorists in light of our discussions of Canadian identity does not escape us. However, we also expect that these difficulties further underscore the complexity of notions of Canadian identities and thought.[4]

As commentators such as Rorty (1999) and Said (1994) have noted, ideas emerge from people who are situated in particular contexts, and who are influenced by particular histories. Images and ideas emerging from fields

of postmodernism and ecology emphasize this theme. In this article we have used the example of Canada to emphasize the usefulness of vocabularies emerging from an ecological postmodern sensibility. In so doing, we have been able to create an interpretive shape — a useful fiction — for representing relationships among history, memory, language, and geography, and the ways these interact to form a nation, personal identities, and intellectual work.

For us, this manner of representing curriculum experiences with small, contextually and historically specific narratives is more than an interesting academic exercise. It also operates as a cautionary tale. In times when international projects are popular, as is the case in our home university, and when calls to internationalize curriculum intensify, we are reminded that ways of organizing and interpreting curriculum are always rooted in local needs, worries, desires, and imaginings.

NOTES

1 To provide one typical example, in the chapter, "Understanding Curriculum as Institutionalized Text," Pinar et al. refer heavily to the work of Canadian curriculum theorists including Robin Barrow, Ted Aoki, Terry Carson, Peter McLaren (who later established himself in the U.S.), Richard Butt, Kieran Egan, John Willinsky, Max van Manen, David Jardine, John Goodlad (another relocated Canadian), Michael Fullan, Jean Clandinin, Michael Connelly, Clermont Gauthier, Andy Hargreaves, Warren Crichlow (originally from the U.S., but now living in Toronto) Hugh Munby, Antoinette Oberg, and Ivor Goodson, among others.

2 Smits (1997), Hunsberger (1992), and Jardine (1992, 1993) are curriculum theorists who provide such examples.

3 To provide only small evidence of this range, we note the work of Canadian curriculum theorists working in the areas of psychoanalysis (e.g., Britzman, 1998; jagodzinski, 1997; Simon, 1992), Aboriginal education (e.g., Battiste & Barman, 1995; Haig-Brown, 1995), poststructuralism (e.g., Aoki, 1991; Daignault & Gauthier, 1982; Graham, 1991), gender (e.g., de Castell & Bryson, 1997; Khayatt, 1997) hermeneutics and phenomenology (e.g., Martel & Peterat, 1994; Smith, 1999; van Manen, 1990), peace education (e.g., Smith & Carson, 1998), postcolonialism (e.g., Willinsky, 1998) among many other areas of possible categorization.

4 We recognize the impossibility of including *all* Canadian curriculum theorists within the space of an essay and apologize to those theorists and colleagues who may not find themselves mentioned here. We believe that the purpose of this article, however, is not to provide a compendium of "who's who" in Canadian curriculum theory.

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Girls (and Boys) and Technology (and Toys)

Rena Upitis

In this inquiry, I have examined how 11- to 14-year-old students used technology to design and produce toys. While most students created toys by hand, I explored the range of computer use, and male and female students' views of this integrated unit. In addressing three specific research questions, I found that a project-based unit allowed students to use technology in meaningful ways, that the wide variety of computer use disrupted typical gender-technology patterns, and that computer use allowed some shifts in traditional gender-technology relations.

L'étude porte sur les diverses utilisations de l'ordinateur et sur la manière dont les garçons et les filles de 11 à 14 ans perçoivent l'unité intégrée qu'est un jouet conçu par ordinateur. Les résultats suggèrent qu'une unité axée sur un projet permet aux élèves de se servir de la technologie de manière intéressante, que la variété des utilisations de l'ordinateur modifie profondément les modèles typiques quant à la technologie et aux différences entre les sexes et que l'utilisation de l'ordinateur permet certains changements dans les rapports traditionnels entre la technologie et les sexes.

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This was the best unit we did all year. I loved it when the little kids came to the Toy Fair and played with my puzzle. I couldn't believe how much they liked it. (12-year-old female student)

Girls and women are typically excluded from the images of the computer culture and glamourized in the video and entertainment industry (Knupfer, 1997; Turkle, 1984). These problematic images are compounded by the biases evident in children's games, classroom practices, and educational design that tend to favour boys (Klawe, Inkpen, Phillips, Upitis, & Rubin, 2002). Boys are more likely to make use of computers at home, and both boys and girls identify their fathers as the computer users in their families even when both the mother and father use computers at home (Margolis, Fisher, & Miller, 2000). Also, girls who become interested in computers are often ostracized by their female peers, as well as by boys, who are often unwilling to grant girls the coveted "hacker" status (Upitis, 1998). Boys are more avid players of video and computer games, which are a gateway into computing

(Provenzo, 1991; Turkle, 1995). Through games, boys learn to experiment and to take risks, and to develop complex strategies for sharing information with one another to "beat the game" (Koch & Upitis, 1996). These forms of learning transfer quite readily to the educational computing environment.

Some might argue that if it is not part of girls' culture to use computer and video technology — either in terms of entertainment or educational technology — then perhaps it is misguided to design programs and strategies to engage girls to use such technology. However, a convincing counter-argument to this view is that provisions need to be made to account for the inequities that exist in many classrooms based on the use or non-use of technology. Teachers able to link computer use with girls' interests are more likely to create the conditions needed for girls to thrive in a computer-rich environment (Klawe, Upitis, Inkpen, & Koch, 1997). Our research team explored such a link, where technology of various types was joined with students' inherent and complex interest in toys.

TOYS AND TECHNOLOGY IN THE CLASSROOM

Over the past several decades many attempts to bring children's love of toys and games into the classroom have been coupled with computer technology. Notable early work in the area of toys and technology included LEGO/Logo, where structures are created with LEGO building materials and interfaced with the Logo programming language (Papert, 1980) and specialized LEGO pieces including motors, lights, and sensors. Researchers (Hall & Hooper, 1993) have identified classroom features conducive to learning with LEGO/Logo, including the importance of involving parents and others when students undertake projects.

Others (Ching, Marshall, & Kafai, 1998; Cutler-Landsman, 1993) have paid attention to the role of Logo and gender. Hutchinson and Whalen (1995) found that working with LEGO/Logo helped girls in grades 3 through 8 to solve some challenging math and science problems, and to develop greater confidence in their problem-solving abilities. By designing and creating such items as washing machines and an elf cookie factory, girls pursued their ideas with the guidance of teachers and input from community members. Further, they learned that math and science problems were embedded in what might be stereotypically thought of as female pursuits.

GENDER ROLES AND IDENTIFICATION AND TOYS

Girls and boys begin to develop stereotypic knowledge about "girl toys" and "boy toys" in preschool years (Martin, Eisenbud, & Rose, 1995), and have firmly established views on toys and gender by seven years of age (Perry & Sung, 1993). This gender identification for toys persists throughout adolescence (McDonnell, 1994), and expands to related issues, notably technology and more generalized gender roles (Henshaw, Kelly, & Gratton, 1992; McDonnell, 1994). In their study with children from 4 to 10 years of age, Martin, Wood, and Little (1990) found that as children became older they made more rigid gender judgments in terms of behaviours, occupations, traits, and physical appearance. Further, the research of Francis (1997, 1998a, 1998b) with 145 children aged 7 through 11 revealed that children construct gender in opposition to one another, and that most children in this age group select gender-traditional occupations, as evidenced by role playing (Francis, 1998b).

What do such gender identities typically entail? From preschool through to early adolescence, girls tend to focus on the development of relationships, while boys often focus on objects (Inkpen, et al., 1994; McDonnell, 1994). Researchers have observed these differences in play, in social interaction, in children's self-descriptions, in adults' descriptions of children, and in children's written narratives (McDonnell, 1994; Nicolopoulou, Scales, & Weintraub, 1994). Researchers have claimed that experimentation with gender-specific boundaries is a natural and necessary stage of growth and development (Francis, 1998a; McDonnell, 1994; Thorne, 1993). Given these observations, the curriculum should allow males and females to express elements of their own gendered cultures, and also to experiment with non-traditional gender relations and expressions.

GENDER ROLES AND COMPUTERS

Mullen (1994) found that one way to engage girls more fully with technology was to provide entry points for girls and boys to shift traditional roles. Mullen suggested that such themes as women in history, men taking non-traditional roles, and the portrayal of boys in nurturing roles be regularly introduced in the classroom. However, this kind of exposure alone is not enough to help boys and girls think differently. More explicit changes, both in classroom structures and in the technology itself, are necessary (Caleb, 2000; Fiore, 1999; Flowers, 1998; Klawe et al., 2002; Wood, 2000). At least five such approaches have been identified in recent years.

First, researchers (Caleb, 2000; Fiore, 1999) have stressed the importance of creating an environment that provides opportunities for girls to use technology in any number of forms, including both familiar and unfamiliar materials and tools. They suggest that the range of materials is more important for girls than for boys (Caleb, 2000; Klawe, et al., 2002). Second, Wood (2000) has demonstrated the value of creating learning environments with "real-world" problems and a "sense of purpose" (p. 31), including such project-based learning as the design of toys and curriculum units for younger children. When such tasks are part of the learning environment, girls are more likely to become interested in technology and to shift to a higher-level status in the classroom in terms of their access to programming (Ching, et al., 1998). Third, several researchers (Ching, et al, 1998; Klawe et al., 2002; Koch & Upitis, 1996; Wood, 2000) have argued that, to shift girls' attitudes towards technology and success in using technology and, ultimately, success in entering technology-related fields, it is important to create "girls-only" conditions so that female students can work with their female peers and with adult females as they explore new technologies. Fourth, both scholars and game creators have suggested the creation of particular software to entice girls to become both interested in the content embedded in the software (Klawe, et al., 2002) and in the technology itself (Fiore, 1999). Finally, challenges to traditional gender-technology relations are critical. These challenges can be effected through role models in the school; guidance counselling; modification of facilities to make them more attractive to females; and summer, mentoring, and same-sex programs (Flowers, 1998).

PROJECT-BASED LEARNING AND SOCIAL INTERACTION

As early as the turn of the 20th century, educators recognized the value of project-based, purposeful classroom activity involving a large degree of social interaction and a natural integration of subject areas (Dewey, 1902, 1938; Kilpatrick, 1918). The importance of social interaction in cognitive development has also been acknowledged throughout this century (Cole & Scribner, 1974; Vygotsky, 1978) because students construct knowledge through their interactions with peers, ideas, problems, teachers, and materials (Papert, 1993). Ross (1993) has identified that using a constructivist approach in mathematics, science, and technology is particularly important for girls. Some of the other features of project-based learning such as planning and design, record keeping, interdisciplinary or integrated studies, teacher guidance, and self-assessment also contributed

to meaningful learning (Welch, 1999; Wolk, 1994).

The use of computers as tools in the context of project-based learning has been heralded for three decades (cf. Papert & Solomon, 1971). Further, scholars (Kinnaman, 1994; Lebow & Wager, 1994; Turkle, 1984; Whitehead, 1993) have demonstrated that teacher support and knowledge is necessary to create exciting and inclusive classroom environments where computers are integrated in an authentic fashion. The notion that the most well-conceived, project-based units incorporating technology will fail to realize their potential without appropriate guidance and intervention on the part of the teacher is echoed by DeJean, Upitis, Koch, and Young (1999), who concluded that students required instruction from a teacher to make the mathematics embedded in a computer game more salient.

In summary, project-based learning involving technology and toys is likely to give rise to important learning for students when it (a) allows for non-traditional and traditionally gendered preferences to be expressed and to shift, (b) involves learning through social interaction with classroom members and others, and (c) is guided by a teacher knowledgeable in the use of computer technology.

RESEARCH FOCUS AND QUESTIONS

In this research, I explored student responses to a project-based unit of study called *Toys! Toys! Toys!*, developed by the students' grade 7/8 teacher. Based on the literature, I developed three major questions to guide the research:

- Did the unit allow students to use both computer and other forms of technology in a variety of ways that were meaningful and productive?
- Did the unit allow for traditionally gendered (constant) and non-traditional preferences to be expressed?
- Did the unit allow for shifts in traditional gender-technology relations, allowing girls to become more fully connected with the promise of technology?

CONTEXT

Classroom Setting

The class involved in the research, located in a mid-sized Ontario city, was one of four involved in the Electronic Games for Education in Mathematics and Science (E-GEMS) group during the 1994/95 school year.

The other three schools in which research studies took place during the same period were located in Vancouver, British Columbia (Klawe & Phillips, 1995).

All 29 students (12 females and 17 males) in a combined grades 7 and 8 classroom participated in the unit of study and in the research. Most were Caucasian and from lower middle-class, two-parent homes. They were 11 through 14 years of age. Their mid-career female teacher was well-versed in computer technology, and comfortable with a wide range of subjects, particularly mathematics and the arts. She was well respected by the students, parents, and colleagues.

Four Macintosh LC III computers with CD-ROM drives and two printers were available in the classroom. The students used word processing and paint programs and HyperCard extensively during the toys unit. In the 1994/95 year, much of the teaching and learning revolved around units of study incorporating a number of curriculum areas, and included such topics as advertising, poetry, heroes, illusions, and the toys unit described in the present paper.

The regular presence of four female researchers/research assistants as participant-observers in the classroom led to the cultivation of a closely negotiated relationship with the classroom teacher. There were in-class and after-school meetings with the teacher to determine how best to integrate the computers into the existing program, while, at the same time, stretching the boundaries of the curriculum through the introduction of the technology.

The Unit of Study

The teacher outlined the expectations for the unit through a one-page description of the outcomes that would result from students' explorations. She expected them to design and construct a toy, using a wide variety of materials and human resources. They also had to produce a number of additional products: design plans, logos, advertisements, and business cards. At least two of these products had to be developed with a computer. The other computer requirement, which was fulfilled in the computer lab in the school, involved learning to use a spreadsheet to create a fictitious toy order within a specified budget.

During the five-week unit, students worked individually or in small groups. At times, full-class discussions took place. The students, through a process of brainstorming, discussion, and negotiation, agreed on a set of criteria for a good toy, including such factors as safety for young children

and durability of materials. Small groups sprung up spontaneously when students were working on a similar problem or using common tools. Students did some of the work individually, both in the classroom and at home, especially designing advertising slogans and materials, and writing their daily work journals. The teacher monitored progress through students' daily journals and through regular individual and small-group discussions. The unit culminated in a Toy Fair, where students displayed, demonstrated, and described their toys to other members of the school and the neighbourhood community.

METHOD

The researchers observed, solicited, and documented students' behaviours and reported thoughts during the five-week period that the unit took place, using extensive field notes, informal interviews, analysis of artifacts, and participation in class discussions and the Toy Fair (Patton, 1990).

Four students (pseudonyms are used) were purposefully selected (Patton, 1990) to represent the full range of technology use. Desiree and Matt designed games for the computer, and shifted in their thinking to some extent. Jane used the computer only as required in the project expectations, displayed no change in perspective, and had been identified, both in this context and in other classroom situations, as one of the students who did not find computer technology appealing (Upitis, 1998). Derek used the computer extensively for advertising, but chose to create his toy using woodworking tools.

ANALYSIS

I compiled a profile for each of the four students described above. For each profile, I identified the range and type of technology used; classified the types of toys created — traditional, non-traditional, and gender-neutral preferences; then identified the remaining themes in terms of learning through social interaction, identification with gender roles or preferences, and shifting gender roles or preferences. Once I completed the analysis and generated the four composite profiles, three research assistants (who had been involved in data collection) and the classroom teacher read through the descriptions. They offered a few small additions to the descriptions of Desiree and Matt, but did not disagree with any aspects of the four profiles. I also analyzed the artifacts of the other students in the class, and all the students were interviewed at the Toy Fair. From these

artifacts, interviews, and general observations of the unit in progress, I created a composite portrait of the entire class.

FINDINGS: THE WHOLE CLASS

Toys and games appealed to all students in the classroom. Because the unit was designed so that the toys could be created for peers or for younger children (an important feature identified by Ching et al., 1998), some students made toys they thought would appeal to younger siblings or to younger students in the school while others designed games for themselves and their peers (e.g., one person made a chess game). Many of the girls made stuffed animals and many of the boys constructed their toys from wood, demonstrating traditional (constant) gender choices. Others made toys that crossed traditional gender boundaries — one boy constructed a wooden dollhouse. This unit made it possible for boys and girls to work according to their traditional or non-traditional preferences, and for the artifacts created in the context of those preferences to be valued. Girls were able to legitimately focus their energy on characters and relationships, which has been demonstrated to be important to engage girls in problem-solving and technology (Klawe et al., 2002; Wood, 2000).

Most students created something with their hands. There was a decided sense of pride for the students at the Toy Fair. For more than half the class, the unit lived on long after the Toy Fair was over. Some gave their toys to younger siblings and observed with pleasure their siblings playing with their creations; some displayed their toys in their own rooms or played with the toys themselves; and others (especially the creators of computer games) left their creations in the classroom and enjoyed continued interactions. These kinds of behaviours clearly indicate that the unit had the "sense of purpose" that Wood (2000, p. 31) identified as a feature of curriculum important to engaging girls, and that may account, in part, for what Ching et al. (1998) refer to as the higher-status achieved by one of the students described below (Desiree).

Students were encouraged to tap into a number of community resources as they developed their toys, and the Toy Fair involved the entire school community, parents, and the general public. Three reporters from different local newspapers came to take photographs and write stories. For some students, this community interaction made the project "real"—something outside the limited realm of the classroom (Upitis, Phillips, & Higginson, 1997).

FINDINGS: FOUR PROFILES

Desiree: "The Titanic*"*

Desiree took learning and schooling seriously. An avid reader, she liked to write poetry in her spare time. Desiree chose to create a computer game for the toy project. She learned to use HyperCard with the help of her peers and by using manuals; there was no classroom instruction on the use of HyperCard. Most of her efforts were spent on the game itself — partly because it was time-consuming to learn HyperCard, then design and debug the game, and partly because she was more interested in producing a good game than in spending time on what she viewed as peripheral activities, like creating business cards or posters.

When asked to describe her game, the *Titanic*, Desiree replied, "It's a choose your own adventure game, where you're trying to relive being on the *Titanic*. There are many paths through the game. I didn't count them. Some of them crossed each other, too."

Desiree had read a number of accounts of the sinking of the *Titanic*, and from these accounts compiled details about life aboard the Titanic before disaster struck. She also knew that a few people survived the disaster, so the game player who made the right choices would survive as well. At each new screen, she asked the player to make a choice: for example, at one point the player was asked to choose between dining in the main dining room or staying in his or her own room because of seasickness. The next screen would be contingent on the choice made on the previous screen, and the right combinations of choices would result in surviving the disaster and winning the game.

The *Titanic* was an unusual game because it was entirely text-based. Desiree explained that she chose not to use graphics because she wanted players to concentrate on the story: "I tried to put in enough detail so you could make up your own pictures, in your mind." She conceded that she had planned to use minimal graphics — "little pictures on the bottom that would move when you clicked on a word" — but was unable to get the help she needed to create such graphics.

Although Desiree noted that "Scott got me started and showed me how to make fields for writing and how to link cards," she was often observed working alone on her game. She used an old Macintosh Plus computer tucked away in a corner of the classroom. The four other computers, networked in a cluster, were in the centre of much activity, talk, and laughter. Anticipating that she needed more time on the computer than

her peers, Desiree picked the old computer because it was not as popular as the other computers. The computer "kept on breaking down and I had to keep rebooting it," but Desiree was glad to use this less powerful computer so she could work long stretches without interruption.

Desiree was justifiably proud of her end result: "Using the computer makes me feel professional. Everyone walks by you and says 'Wow! You must really know computers.'" She enjoyed showing her game during the Toy Fair, despite finding a bug "right when people came in." She spent little time on the advertising aspect of the unit and she quickly created by hand almost all her business cards and other paraphernalia, such as a doorknob hanger and buttons. The heart of the unit for Desiree was in making the game.

Derek: "The Dino-Bank"

Derek, a reflective and industrious student, created the Dino-Bank, a dinosaur with a slit in its back for saving coins. He said he wanted to create a "fun way for little kids to save money," and that by making the belly of the dinosaur clear, "kids could see how much money they were saving." Derek painted it purple, with large yellow polka dots all over the body and neck, and engaging facial features — the Dino-Bank looked as if it were smiling and winking. All Derek's advertising materials were also yellow and purple, with the exception of the interactive advertisement he created using HyperCard.

The Dino-Bank posed many design and construction challenges for Derek. When asked what tools and materials he used to construct his toy, he readily recited a list of some length, including "a scroll saw, a router, screwdrivers, computers, scissors, pencil and grid paper, wood, Lex-an, paint, screw, beady eyes, and glue." Derek described Lex-an as "unbreakable plexi-glass," something he had learned from his father who "works in a glass company and knows about this kind of stuff." The Lex-an was needed because Derek tenaciously maintained that "kids would like it more if they could see inside."

With the support of his classroom teacher, Derek interacted with people outside the immediate classroom community to make his Dino-Bank. A teacher from the local high school helped him "router out the middle strip," a groove where the Lex-an could rest in the purple and yellow wood frame. Derek used a wide variety of resources to create the toy he had envisaged while retaining a sense of ownership of the toy; while others had helped, "it was really my idea and my toy."

Derek spent almost as much time working on the advertising of his toy as he did on the design and manufacturing aspects. He created a calendar, doorknob hangers, bookmarks, business cards, a computer-generated pie graph indicating projected sales, buttons, a Dino-Pencil, posters, and an interactive computer advertisement. He chose to create the computer advertisement since he "figured if it was on a computer and people could click on it, it would be more effective." Derek created the advertisement over many short sessions. He seemed undisturbed by the lack of availability of large blocks of time for computer use and the resultant break in continuity. As he put it, "I worked on it in bits and pieces . . . until it was done."

Derek found the journal-keeping tedious, describing the journals as "kind of boring." Although he recognized that his teacher had designed the journals and production records to keep the toy production on track, he stated, "I didn't need to do the journals to keep planning and going and on track."

Showing the Dino-Bank to friends, young children, parents, and members of the community during the Toy Fair was a highlight for Derek. Each time he described his toy to a new person, he was filled with enthusiasm.

Jane: "Cuddles"

Jane's energy was focused on friends — she was eager to move on to high school and explore all the complexities of the high-school social fabric. Jane completed school activities and projects with diligence but sometimes with little enthusiasm.

Jane was not enthusiastic about her toy — a stuffed animal called Cuddles. During our final interview, Jane indicated that her toy was still in her locker because she "hadn't bothered to take it home."

Jane spent relatively little time designing her toy: she drew a simple pattern for Cuddles and proceeded from there. In the end, she seemed to regret her lack of attentiveness at the design phase and commented that "one part of the head was longer than the other, and one of the arms was longer, and one leg was thicker." If she were to do the project again, she said she would "use a pattern from a book next time," rather than taking the extra time to design a pattern more to her liking.

Although Jane found the hand sewing difficult, stating that "it was hard to sew, I kept poking my finger," she nevertheless persisted until Cuddles was completed.

Jane used the computer only when required. She did almost all her advertising by hand, including drawings on her display board, a Cuddles lunch bag, a doorknob hanger, and a graph indicating projected sales as compared to other stuffed animals. She created only two items on the computer, a business card and a flyer. Her father helped her with the design of these items. Jane also submitted her computer-printed journal entries, after transcribing her handwritten notes on her home computer. She found the journal aspect of the unit "not too bad" although she didn't feel it helped her "stay on track." When asked why she didn't simply submit the handwritten form of her journal entries, Jane indicated that she liked to hand in computer printouts rather than handwritten notes. Jane didn't mind using the computer when she thought she could do a better job with it; she "just [didn't] want to use the computer just because I have to." Jane did not lack computer skills; she based her decision to use or not use the computer on her interests and needs.

Matt: "Puzzle Castle"

Matt dedicated large chunks of time and attention to things that interested him; working on his computer game was just the sort of thing that captured his imagination.

Matt's game, Puzzle Castle, was a major undertaking. It was a complicated game, with graphics, constructed with HyperCard. He described spending "*hours* on the game. Every period at school, I would work on the game. And then I worked on the advertising at home." Matt constructed his graphics in black and white, realizing even simple drawings would be time-consuming, in addition to working out the design, puzzles, and riddles associated with the game. Matt enlisted the help of a classmate from time to time.

Matt described the game: "It's about a knight who has to save a princess. He has to solve problems to free the princess, basically. Math problems and riddles." Asked where he got the idea for the game, Matt told us, "I was thinking of non-violent games, because we're not allowed to have violence. So I thought maybe riddles. I was thinking about a robot that would have to save a city. But I kinda thought mine was a better idea."

Matt's game was not unlike many popular video and computer games where the player's mission is to save a damsel in distress. When we saw Matt's game at the Toy Fair, one of us asked Matt if it were possible for a woman to be the hero. Matt had "never thought of that," but eagerly responded with a suggestion: "At the start, I could ask, please enter your

gender. They could have the same story and riddles, but wherever it said 'princess' it would say 'prince.'" When asked if he had ever seen a game like that, he replied that he hadn't. We then asked him to think about whether a game like his, with a gender option, would sell. He seemed to think it would, responding, "Yeah, unless it was a really boring game. It would probably sell better. If some people felt stereotyped about games, like heroes as men and distressed damsels and stuff, then more girls would buy it, maybe."

Matt didn't like two aspects of the unit, the scale drawings and the journals, stating that the scale drawings didn't make sense for his toy. He disliked the journals, because they "got on [his] nerves" and played no role in "keeping him on track."

Matt enjoyed displaying his game and spent much time on the advertising aspects of the project. He created flyers and a banner on the computer, and a poster by hand. It was "fun organizing the stuff for the Toy Fair. It makes you feel like a big business man!" Paradoxically, Matt didn't like the unit on advertising, calling it "one of the boring ones." For Matt, it seemed that embedding the advertising in a project of his own made the advertising aspect relevant.

DISCUSSION

The evidence indicates that this unit was successful in terms of engagement, technology use, and traditional and non-traditional gender-technology relations. Ample evidence suggests that the project-based nature of the unit — that is, the creation of original artifacts — and the wide variety of technology that was both possible and necessitated by the nature of the creative undertaking, contributed to the success of the unit. In addition, the involvement of peers, the teacher, and people outside the classroom was important. As a result of these conditions, most children were able to become engaged through the expression of traditional gender preferences (both in terms of toys and technology).

I now return to the specific research questions outlined earlier: Did the unit allow students to use technology in meaningful ways? It is apparent that the success of this unit was partly due to the large number of ways that students could use computers and other technology. Further, the technologies were often used in combination to create something original and unique. As Caleb (2000) has argued, it is the *possibility* of creating ample ways of solving problems with unfamiliar materials and tools that is most likely to lead to success in technology design for girls, and this

was no doubt a contributing factor to the success of the unit for the girls — and boys — in the classroom. Students were required to use the computer only in non-central aspects of the unit but were able to use the computer extensively if they so chose; consequently, there was a wide range of computer use, as illustrated by the four profiles. Some students learned to use a new kind of program and built a game based on that newly acquired ability. Desiree learned to use a computer in ways that made her an expert, a role more typically associated with males. For other students, like Jane, the relative freedom in terms of computer use meant that she could complete the project without being forced to use a tool that she found neither appealing nor particularly useful. Others, like Derek, used the computer for more than the required tasks, but constructed a toy with other tools. The students used the computer in a number of ways—for designing and printing business cards, writing up marketing reports, creating interactive advertising for the toy fair, creating signs for the toy displays, and working on daily journals. These uses reflect the ranges of use commonly found in the classroom with this age group (Upitis, 1998).

Did the unit allow both traditionally gendered (constant) and non-traditional preferences to be expressed? The wide variety of computer use appeared to disrupt some of the typical gender-technology patterns identified in the literature review and, indeed, those identified at other times within the particular classroom under consideration. That is, while in other classroom activities girls were much more likely to use computers as tools (e.g., for report writing, Upitis, 1998), in the context of the toys unit, girls were equally likely as boys to use the computer for creating marketing reports. During the entire school year, this was the unit where the students' use of the computers was most fluid. Students used computers (at home and at school) when they chose to, and moved easily from using a computer tool to using a saw or a sewing machine.

Although girls and boys both used computers for the toys unit during free time and the allotted class periods, the girls were more likely to use the computer during free time when the teacher created a space for them, that is, when she explicitly made a computer available for a female student (Koch & Upitis, 1996). Hutchinson and Whalen (1995) reported a similar phenomenon; girls were more likely and more comfortable in using LEGO/Logo facilities in same-sex rather than mixed gender situations.

Similar to the findings reported by McDonnell (1994), the boys demonstrated a particular interest in the attributes and production of objects or artifacts, whereas the girls showed a greater interest in social interactions. The boys were also more inclined to draw upon past

experiences in handling materials or technology to support their work during the toys unit (i.e., traditionally gendered preferences). The girls, in contrast, were more focused on the story lines that were woven around these objects of human creation (another form of traditionally gendered preference).

Did the unit allow for shifts in traditional gender-technology relations? Some shifts in relations were indeed observed. In a few cases, the more entrenched and problematic gender-technology relations, as outlined at the beginning of the paper, shifted. This was particularly apparent for Desiree, as noted previously; however, Desiree was the only girl who made such a large shift. Given the statements made in the research literature about the difficulty in shifting gender-technology relations, one might conclude that a shift, even in one student, is noteworthy in that this particular curriculum unit allowed for such a shift while previous teaching and curriculum units had not.

Other shifts were more subtle, amounting to what might be seen as a greater awareness of gender issues, without major shifts in self-perception or behaviour (such as Matt's thoughts, when prompted, about female stereotypes and players).

In summary, this type of project-based curriculum unit allowed students with a wide range of abilities and interests to be engaged and, in some cases, profoundly challenged by their curriculum. The potential of this type of widely appealing and purposeful project-based unit for shifting girls' views of themselves as users of computer technology is promising. If students are to become more fully engaged in the use of technology, then teachers would do well to create opportunities for traditional gender roles to be expressed and to change.

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John Dewey's Concept of the Student

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In this article, I have examined Dewey's concept of the student through the lens of his poetry and prose to show that his poetry clarifies his prose. I have devoted special attention to a study of Dewey's poetry to reveal his belief that students are more fragile than his prose suggests and that they need guidance in their desire for freedom to learn. His poetry also suggests that students need help to navigate society's contradictory educational currents. Without such help, they will likely suffer damaging, permanent outcomes.

L'article analyse, à travers les poèmes et la prose de Dewey, son concept de l'élève. Les poèmes de Dewey présentent l'élève comme étant plus fragile que ce que pouvait laisser supposer sa prose et comment il doit être guidé dans son désir de liberté dans l'apprentissage. La poésie de Dewey laisse entendre aussi que les élèves ont besoin d'aide pour trouver leur voie dans les courants éducatifs contradictoires de la société. Sans cette aide, ils risquent d'être affectés de manière permanente.

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John Dewey's thoughts about students and learning have long interested educators, although many have failed to study his writings and have misinterpreted and misapplied his ideas (Archambault, 1964/1974, p. ix). This lack of attention to his writings extends to his poetry which has been studied even less than his prose. In this article, I address this neglect by examining in more detail some of his philosophical and pedagogical beliefs about students through attention to his poetry.

Dewey thought that the major responsibility for education fell initially upon adults, teachers, and others. He did not intend that students be held primarily responsible for their achievements or shortcomings. Instead, he considered adults responsible for creating learning conditions to promote educative experiences for children. Even so, he encouraged teachers to ensure that learners come to understand their limitations and potentialities through their critiques of student performance and other feedback (Boydston, 1976/1980, p. 28). This is not to say that Dewey did not place emphasis on the learner's initiative and involvement. He clearly stated that the teacher's guiding, directing, and navigating were impossible if the energy for learning does not come from the student: "Since learning is something that the pupil has to do himself [or herself] and for himself [or

herself], the initiative lies with the learner" (Dewey, 1933/1960, p. 36). So, too, Dewey expected the student to adapt to the curriculum as much as he expected the teacher to adapt material to the student (Dewey, 1938/1963, pp. 46–47).

When Dewey was writing his poems (1910 to1918), he was in his fifties and sixties and had completed most of his major works on education (Boydston, 1977, p. xvii). Interestingly, he did not want his poetry published. Given the aesthetic interest the poems have generated, one might conclude that his judgment of the pieces was superior to that displayed by those who had the works published. Yet, the poetry does illuminate Dewey as a person and a philosopher. In particular, the poetry partially informs the reader of Dewey's opinions of students, teaching, and education. Of Dewey the person, his poetry provides glimpses of a "loving, sensuous, playful, perceptive, and at times emotionally torn, weary, self-doubting, depressed" individual (Boydston, 1977, p. xxii). His poetry also suggests that his affection for Anzia Yezierska may not have been completely platonic. Yet in his poetry Dewey echoes, expands, and clarifies his thinking about several subjects, including philosophical anthropology and pedagogical theory.

PHILOSOPHICAL ANTHROPOLOGY

Rather than pursue the full scope of Dewey's thought about the child, I have limited my comments to his opinions of the student's nature, soul, and significance. To begin with, it is worthwhile to comment on a feature of Dewey's educational theory that stems from his philosophical anthropology. Although Dewey is frequently considered a child-centred educator (Archambault, 1964/1974), this description is somewhat inaccurate because he explicitly denied this label and stated that he was better described as community-centred because he thought learning was a social activity, not an individual one (Boydston, 1981–1991, vol. 11, p. 206; vol. 17, p. 53). Community should be understood to include children, youth, and adults. On the other hand, Dewey believed "the centre of gravity" needed to shift from the curriculum and teacher to the child and her or his impulses as a member of a social group (Dewey, 1956/1990, p. 34). The following three subtopics — the student's nature, soul, and significance — are treated separately for the sake of discussion, although they overlap in Dewey's philosophy.

The Student's Nature

Dewey's ideas regarding the child evolved throughout his life, but there is a remarkable continuity in his thought on the subject. For example, he had an abiding confidence in the child's nature and ability and believed that, when educators guide a student's growth, his or her natural tendencies lead to educative experiences and to a better functioning society. *The School and Society*, published in 1899 and revised in 1915, offers Dewey's clear early statement on the child's nature (Burnett, 1976/1980, p. vii). He explained why he believed that understanding the child's nature is a starting point for education and identified four major instincts that educators should "get hold of" and "direct" toward "something better" to educate a child (Boydston, 1976/1980, p. 31). Noteworthy is his belief that the investigative and artistic instincts grow out of the communicative and constructive tendencies. His ideas are outlined as follows:

Instincts	*Manifestations*
communicative	saying, communicating
constructive	making, playing, shaping
investigative	finding out, inquiring
artistic	creating, fashioning

In addition to attributing these four *impulses* to all children — a term Dewey used as a synonym for *instincts*, his affirmation about how to understand students differed from many of his contemporaries. Dewey claimed, first, the importance of understanding the "individual mind as a function of social life — as not capable of operating or developing by itself, but as requiring continual stimulus from social agencies, and finding its nutrition in social supplies" (Boydston, 1976/1980, p. 69). This emphasis ran counter to beliefs that the mind is innate or individually created. Second, he argued that the child should be understood from the perspective of emotion and endeavour as well as knowledge and intellect (p. 69). The student is a feeling, purposive, and intellectual being who needs to be approached as a whole person. Third, he insisted that mind is not a static entity that comes fully developed but instead is "a process" and "a growing affair" characterized by "distinctive phases of capacity and interest" (p. 71). Dewey argued that education is neither a "drawing out" nor a "pouring in" but a "taking hold" of the activities that stem from instincts. These activities need to be directed toward valuable outcomes (Dewey, 1956/1990, p. 36).

In 1909 when he wrote *Moral Principles in Education* (Dewey, 1909/ 1975), Dewey added a new impulse, "innate tendency," to amplify the communicative instinct. "The child is born with a natural desire to give out, to do, to serve" (p. 22), a natural desire that teachers can use to cultivate character and good citizenship (pp. 9–11, 49–57). Similarly, he thought that teachers should nurture the "impulse toward justice, kindliness, and order" (Dewey, 1934/1962, p. 47). Later, he modified his thinking about the number of impulses and spoke of a "group of instinctive and impulsive tendencies" that educators ought to take into consideration (Dewey, 1916/ 1944, p. 194). If they would design curricula in view of these tendencies, Dewey thought of the potential outcome: "going to school is a joy, management is less of a burden, and learning is easier" (p. 194). In a still later volume, Dewey (1938/1963, pp. 67ff) mentioned a variety of impulses that need to be converted into desires and, then, the desires need to be transformed into purposes. This process of moving from impulses to desires to purposes involves a "complex intellectual operation" (pp. 68– 69). Dewey listed the conditions:

(1) observation of surrounding conditions; (2) knowledge of what has happened in similar situations in the past, a knowledge obtained partly by recollection and partly from the information, advice, and warning of those who have had a wider experience; and (3) judgment which puts together what is observed and what is recalled to see what they signify. A purpose differs from an original impulse and desire through its translation into a plan and method of action based upon foresight of the consequences of acting under given observed conditions in a certain way. (Dewey, 1963, p. 69)

When Dewey compared his thinking with what he saw in schools, he was troubled. He was especially concerned that many of his contemporaries minimized the importance of native impulses or, worse, sought to suppress them because they were considered evil. Because educators suppressed children's impulses, he believed they forced schools to be dull, disrupted learning, and created behavioural problems. In "The Child's Garden," Dewey described an adult who was suppressed too often as a child. He lamented the hardening effect of the environment upon the child and the resulting inability to recover his or her hopes and dreams because

. . . the freezing years did harden
And shut me in this barren field
— Docks and thistle its only yield —
And I cannot find that closèd garden. (Boydston, 1977, p. 19)

Dewey was not a proponent of allowing the student to do anything he

or she wished. Educators need to assist in the conversion of impulses into desires and purposes which they then could direct. If this conversion and guidance did not occur, he argued that the crude, undeveloped, and unconverted instincts of childhood would dominate the child and, later, the adult. A falsely called freedom that permits a child to pursue impulses at will does not result in a reflective and autonomous individual but instead turns her or him "loose to suffer in the lanes/Of thorn trees unpossessed as yet by man" (Boydston, 1977, p. 6). Students need to have their impulses and desires directed, converted, and transformed so that they develop insights that lead to a genuine freedom, a "freedom . . . identical with self-control; for the formation of purposes and the organization of means to execute them are the work of intelligence" (Dewey, 1938/1963, p. 67).

In poem #28, Dewey imagined a person who is strong but not sufficiently self-controlled and independent to overcome his or her burning desires and societal pressures because he or she was not adequately guided earlier in life:

He failed. Though he was strong,
He was not strong enough t' await
The final word of patient fate.
He was hurried by the restless throng
Of feverish desires to seek
The promised land of honeyed streams
Of smooth success. (Boydston, 1977, p. 19)

Although children may be eager to claim a freedom or a dream, Dewey suggested that educators should not cultivate this eagerness. He made unmistakably clear the outcomes of people yielding to undeveloped impulses and ill-advised pressures:

Through searchings for a bright remote
Paradise of joys. Then sudden walls
Closed in. The thorns were hands which smote
Him. Rocks melted. Paths were pitfalls;
The promised land swallowed in cloud. (Boydston, 1977, p. 19)

Dewey, nevertheless, believed that schooling and other forms of intentional education should strive "to free the capacities thus formed for fuller exercise, to purge them of some of their grossness, and to furnish objects which make their activity more productive of meaning" (Dewey, 1916/1944, p. 17). One of the reasons for education, therefore, is to ensure that "genuine and thorough transmission takes place, [because] the most

civilized group will relapse into barbarism and then into savagery" if society neglects its educative responsibilities (Dewey, 1916/1944, pp. 3–4). To successfully pursue desirable outcomes, Dewey thought that society needed to understand that the purpose of education was not just to transmit customs, beliefs, and occupations to the young but also to help create souls, selves, or people. Schools, therefore, are institutions of creation, not just places of transmission.

The Student's Soul

Although Dewey believed early in his life in a nonmaterial dimension of the human personality, he later decided that the soul or spirit was a social creation. Accordingly, he decided that there was no immaterial essence called the self. The self was a social construct, an outcome of the effort of the child in his or her context. He argued that the idea of a self is exactly that: an imaginative "idea" (Dewey, 1934/1962, p. 18). Moreover, he maintained that it was critical to understand that "the unification of the self throughout the ceaseless flux of what it does, suffers, and achieves, cannot be attained in terms of itself. The self is always directed toward something beyond itself . . ." (p. 19).

Many years before writing *A Common Faith*, Dewey wrote in his poem "My Body and My Soul" that human love is found in the body's love of others and that the falsely called ghost or soul of the body was powerless. He asserted:

For love is proved in power to wait in worship, serve and give,
And soul without body, powerless for these things, does not live,
But pretentious ghost, filled with thoughts of self, wanders alone
While body's love, in glad surrender, finds other's soul his own. (Boydston, 1977, p. 8)

In poem #77, Dewey asserted that an active body created the self and one became her or himself through living and making decisions: "Learning hate and love and poise in his strife" (p. 56). In the end, it is "the body's movement to and fro,/As loving, hating; it everywhere doth go/That creates a soul from soulless things" (p. 56). Dewey, therefore, argued for educational environments founded upon a belief in the guided movement and involvement of the child. The child's nature demanded such an environment for her or him to learn and to become a self. He added that education is an endeavour that was designed to see a community of inquiring selves creating themselves and one another. Children create themselves and help create others. Educators contribute to the creation of

other selves because they are an important part of the environment. Or, as others say, "each of us becomes those people with whom we work, talk, share, and grow" (Tharp, Estrada, Dalton, & Yamauchi, 2000, p. 60). The self as a human creation, then, is a lifetime undertaking, and educators guide in part this creation as they direct impulses, assist in the conversion of impulses into desires, and are co-partners with students in the transformation of desires into reflective purposes.

The Student's Significance

If a child is not created in the image of God and not a self in an historic sense, one may wonder how there can be any value attached to the person. And if there is no significance to children beyond that given to other socially created objects, why should society value and educate children? Why spend time in meaningless activities with valueless creatures? Dewey answered that all nature was of one kind and in the process of time became significant. The significance rests in the historical development of the universe and the human race. Humans evolved and acquired the potentiality and resources to be more than mere matter because "in experiment of Time's changes wise,/Recovered, conscious now, eternal peace/And Eternity knew Death and Care her own" (Boydston, 1977, p. 36). To clarify the significance of the self, Dewey explained that nature is "the whole complex of the results of the interaction of man, with his memories and hopes, understanding and desire, with that world to which one-sided philosophy confines 'nature'" (Dewey, 1934/1962, p. 152). Boydston's observation about Dewey's poem "Creation" amplifies his viewpoint:

Creation moves from a picture of pre-creation, when nothing existed but "sterile Time," through the beginning of life activity and of physical ordering, into human history that is at first indiscriminate, "careless of offspring come and gone," and, finally, to the emergence of morality and of human sensitivity to value priorities, when "Time was won to love of feeble things that die,/And turned to tender care of all that grows." (Boydston, 1977, p. liv)

Believing that evolution made possible progressive developments, wise changes, and increased capacities, Dewey concluded in "Two Weeks," "we are more than simple brute/Only in that there have entered into us/The thoughts of others" (Boydston, 1977, p. 16). Humanness is tied in part to the ability to learn from the "thoughts of others" (p. 16). Thus, Dewey asserted that, with the evolution of humankind and human thought, the universe took on meaning. He spoke in poem #31 of the significance of the

growth of human understanding and the meaning that humans gave the universe when they first appeared on earth. He claimed,

Long time lay the world level and open,
Sharing and parting a common motion
Possesst by all in wide publicity,
Meaningless thus, lacking a me and thee. (Boydston, 1977, p. 21)

He repeated this thought almost verbatim in poem #77 and hinted that human refinement emerged in humankind's seeking, searching, and meaning-making: "And when he found, or when he searched in vain,/Dull blank things grew to meanings clear and plain" (Boydston, 1977, p. 56).

For Dewey, the arrival of humans in the world, and their learning, gave significance and value to their world. With the coming of knowledge, the creation of communities, and the possibility of growth, people became significant, created meaning and values, and learned to be responsible to act upon and transmit the best available information. Because nothing was valued before humans arrived, there is no point in discussing the value of anything apart from them. Values, significance, and importance are distinctively human constructs. Specific values depend partially on particular human beings and their individual situations, cultural circumstances, and historical context. Yet, what ought to be valued by humans are those things that promote human understanding, democratic communities, and personal and social growth. Even so, these elements which vary somewhat from one historical period to another are always shaped by what others have learned. Values, therefore, are not whimsical, idiosyncratic, or arbitrary, because they grow as society learns and matures. Moral knowledge emerged from disciplined inquiry much as knowledge did in other realms. Yet, every action and decision is "always specific, concrete, individualized, unique" (Dewey, 1920/1957, p. 167) and demands that each student develop moral thinking and traits. He concluded: "[W]e are only pleading for the adoption in moral reflection of the logic that has been proved to make for security, stringency and fertility in passing judgments upon physical phenomena" (p. 165). Because Dewey was community oriented and believed each person was a member of society, he claimed that logic is fertile when it is socially or publicly developed and tested, not validated on a purely personal level. Common or universal but not absolute values emerge from public or social searches for that which is good:

We insisted at the last hour upon the unique character of every intrinsic good. But the counterpart of this proposition is that the situation in which a good is consciously realized is not one of transient sensations or private appetites but one of sharing and communication — public, social. Even the hermit communes with gods and spirits; even misery loves company; and the most extreme selfishness includes a band of followers or some partner to share in the attained good. Universalization means socialization, the extension of the area and range of those who share in a good. (Dewey, 1920/1957, p. 206)

PEDAGOGICAL THEORY

Dewey's pedagogical theory grew from his thinking about philosophical anthropology and his related views of child development. Out of these understandings, he developed a natural learning theory and an experimentalist philosophy of education. He claimed that learning as it occurs in a good home should be the model for school learning, not vice versa. The school should learn from the student's natural learning activities and work with other education agencies to take the immature child on a trip from raw impulses to a maturing youth, progressively developing the child into someone who reflectively constructs purposes and plans to reach selected ends. Consequently, Dewey's ideas of desirable environments, education, thinking, and teaching illuminate his view of the student.

The Student's Environment

From Dewey's standpoint, one of the most important responsibilities of an educator is to build and keep constructing educative environments for students, an ongoing process. In building school environments and utilizing external ones, the teacher seeks to control variables in such a manner that the student engages in and reflects upon experiences that are educative rather than noneducative, miseducative, or antieducative. In pursuing this end, the teacher is partially guided by the goal — not "the starting point" — of initiating students into the "subject-matter of the adult" (Dewey, 1938/1963, p. 83). For Dewey, "No experience is educative that does not tend both to knowledge of more facts and entertaining of more ideas and to a better, a more orderly, arrangement of them" (p. 82).

While this idea of schooling may be simple, it is not easy. Many factors may combine to create an unfriendly environment for the natural tendencies of the student. Certainly, many traditional schools of Dewey's period did not welcome the natural propensities of children. Nor did they

seek to guide and transform them. In poem #66, Dewey stressed the critical nature of the school environment. He envisioned, as he wrote this poem, an old man asking a boy if he understood what an imaginary educator had just said to him. The boy responded by exclaiming that he had not understood a single word. The lad added that a telling approach to teaching was inappropriate for him and resulted in no learning. If, however, people genuinely wanted him to learn, the way was clear: "put me with the little kiddies and I shall learn" (Boydston, 1977, p. 48). Educators must create an environment that connects children's common means of learning or is consistent with natural learning theory. Only then did Dewey envision the fullness of the spirit of learning being present in classrooms: "the holy spirit's dove once more descend/As it hath from the beginning and shall to th'end" (p. 48).

The Student's Education

Dewey was concerned that traditional education became often detrimental to the growth of children, largely noneducative or miseducative, or worse, antieducational (Dewey, 1916/1944, p. 196). He defined a noneducative experience as one having no impact on the immediate or future growth of the child or society. He defined a miseducative experience as one that intentionally or otherwise directed a person away from personal and social growth. He defined antieducative experience as one that exploited children or stunted their inquiring tendencies. In his writings Dewey urged educators to create, develop, and sustain learning environments in schools and communities that increasingly displaced non-, mis-, or antieducative ones. He specified that educative experiences had to meet a variety of criteria, involving a genuine problem of interest to the learner, a worthwhile activity within itself, a stimulus for new questions and more information, and an ordered experience to allow sufficient time for development, based upon a continuity of past, present, and future considerations (Dewey, 1933/1960, pp. 218–219).

In his poetry, Dewey wrote often of miseducation and antieducation. In one piece, he mentioned a child who had barely met his personified and defied Education (Boydston, 1977, p. lxiii, pp. 51–53) but was very familiar with studies that supposedly prepared him for a distant future. He described Education as calling and seeking the child, and, on occasion, the child as seeking the voice of Education. But the child, who is both the sought and the seeker, had doubts about his or her relationship to Education, confessing:

And tho I knew 'twas me you called,
I shrank afraid, appalled;
I thought it was not proper nor polite
For one like me to dare to claim a right
To speak with you . . . . (Boydston, 1977, p. 52)

The student's desire to converse with Education, the god from above, was thwarted at nearly every turn by an adult-constructed wall. The child was "captured in illusion" by "outward things said clear;/And about was the confusion/Of all the grown up persons said" (Boydston, 1977, p. 52). These adults warned the child against listening to Education before the appropriate time:

It is forbid
That you should hear till lid
Lifts from the things immured
I' the past; nor is it to be endured
That you should hear direct
Before the hull of your mind be o'erdecked
With stiff well seasoned boards
Brought from dry scholastic hoards. (Boydston, 1977, p. 52)

The proper time for the student to listen was only after he or she had been thoroughly socialized and his or her mind had been endlessly prepared (Boydston 1977, pp. 52–53). By the time these social boards had been nailed in place, adults had built "a thick wall" between the child and educative experiences, a wall that blocked and distorted Education's call. Indeed, Education's call "Arrives suppressed, altered in sense/Through medium, sound-proof, dense" (p. 53). Sadly, then, the forces of school and society often combine to erect "learning's fence" to hide the student from rich educative experiences and transform him or her into an alien in a distorted world: "In lands where we are foreign born/Living protected, safe, — and forlorn" (p. 53). The student's natural curiosity and adventuresome spirit were misshaped and, thereby, he or she was turned into an alien.

The Student's Thinking

If educators are to replace injurious social practices with educative opportunities, Dewey argued that a corrected view of the young student's abilities was necessary: the child is a natural and multitalented learner who does not need to be drawn out or have educators pour anything into her or him. Instead, Dewey averred that the child is "running over, spilling

over, with activities" (Boydston, 1976/1980, pp. 24–25) and that educators should direct these activities. But the battle to interpret children as Dewey did was not easy to win because many adults believed that children had limited intellectual abilities. Rather than seeing them as active, thinking beings, these adults saw them as passive vessels waiting to be filled or creatures that needed their interests extracted. Dewey countered by saying "the native and unspoiled attitude of childhood, marked by ardent curiosity, fertile imagination, and love of experimental inquiry, is near, very near, to the attitude of the scientific mind" (Dewey, 1933/1960, p. v). He manifested a similar attitude in his poems, revealing his admiration for nature and nature's gift: mind. In "Thy Mind," he delighted in the person who continued to grow in understanding:

Thy faithful mind reflecting clear
All charming forms, or far or near,
Draws from that high peak its dignity,
And from those depths strange mystery. (Boydston, 1977, p. 13)

He revealed both his admiration for the mind and his naturalistic ontology in poem #34 where he compared his view of human thought to an example of holy ground found in Hebrew scripture:

My mind is but a gutt'ring candle dip
With flick'ring beams the wind doth blow around;
Yet the scant space thus lit is holier ground
Than that where prophet did his sandal slip. . . . (p. 23)

But Dewey knew that thinking is not easy and that certain environments made it more difficult. In "Pulse in an Earthen Jar," he went even further and expressed doubt about a student's ability to recover from the detrimental consequences of being fully immersed in an unreflective, oppressive culture:

I think he is dead;
They have smothered him.
Does he dream when the soft wind sighs
At four in the summer's morn?
I think he is dead.
They have choked and stifled him. (p. 25)

The smothered, the choked, and the dead are those who have had their impulses and inquiries squelched by others. They do not dream of

possibilities nor think of solutions, much less think clearly, cogently, and coherently. In short, they never learn to think. And for Dewey the only kind of thinking is thinking for oneself. Educators, therefore, must not smother students but create learning environments to provide authentic problems that cultivate thinking (Dewey, 1916/1944, p. 303). Paradoxically, he also thought thinking could be stimulated in negative kinds of settings. Life need not be good or enjoyable for a child to learn to think. The injustices and oppressions of the child may awaken powers that a life of ease does not: "[only] when thinking is the imperative or urgent way out, only when it is the indicated road to a solution" does it occur (Dewey, 1920/1957, p. 139). When writing about children's mistreatment, he stated (poem # 86) that only those who rebel learn to think. And they are happier than those who never "felt the lash/'Cross their defenceless backs" (Boydston 1977, p. 64). Dewey (1920/1957) later amplified his thinking:

Men [and women] do not, in their natural estate, think when they have no troubles to cope with, no difficulties to overcome. A life of ease, of success without effort, would be a thoughtless life, and so also would a life of ready omnipotence. Beings who think are beings whose life is so hemmed in and constricted that they cannot directly carry through a course of action to victorious consummation. Men [and women and children] also do not tend to think when their action, when they are amid difficulties, is dictated to them by authority. (pp. 138–139)

While noting a potentially important pedagogical stimulus, Dewey is no doubt remiss in this context of not mentioning that the traumas of life do not necessarily provoke children to think and that they can overwhelm the young. Dewey did not warn sufficiently of the overall harmful impact of the mistreatment of children.

The Student's Teacher

Dewey's ideal, the seasoned teacher, is a liberally educated, pedagogically competent, content-loving, student-sensitive, community-understanding, and scientifically thinking person. He envisioned a teacher who assumes a set of responsibilities, including those suggested by his analogies of the teacher as learner, intellectual leader, partner, guide, wise parent, navigator, social servant, prophet, physician, salesperson, engineer, pioneer, artist, researcher, orchestral conductor, gardener, farmer, watcher, helper, starter, director, organizer, mediator, and interpreter (Simpson & Jackson, 1997). For Dewey, then, there are overlapping professional, classroom, school-

wide, political, and community dimensions to what a good teacher should understand and do. Becoming such a person is neither a straightforward task nor an effortless one but such is critical if students are to be well served. Teaching is "the supreme art," a demanding undertaking that requires continual development (Boydston, 1967–1972, vol. 5, p. 94).

Unsurprisingly, Dewey was critical of the student experiences many districts and teachers prescribed, and was particularly disapproving of teachers and schools that were so immersed in the past they manifested little understanding of present-day students. He summarized his objections as follows:

> How many students . . . were rendered callous to ideas, and how many lost the impetus to learn because of the way in which learning was experienced by them? How many acquired special skills by means of automatic drill so that their power of judgment and capacity to act intelligently in new situations was limited? How many came to associate the learning process with ennui and boredom? How many found what they did learn so foreign to the situation of life outside the school as to give them no power or control over the latter? How many came to associate books with dull drudgery, so that they were "conditioned" to all but flashy reading matter? (Dewey, 1923/1963, pp. 26–27)

Dewey clarified his view of the desirable teacher, not only by his explicit and positive comments but also by his criticisms of the weaknesses of the traditional teacher and the excesses of the progressive teacher. His poetry moved beyond his other writings to reveal a loathing for a certain kind of teacher: the pedantic teacher who destroyed the natural learning inclinations of students. The mind of the teacher, in "To a Pedant," has storerooms stocked with ostentatious ornaments, a covered pool in a marble hall with no sign of life, cabinets with numerous pigeon-holes and other indicators of debt to "stale antiquity's refurbished store," a dining hall with four-hundred-year-old "cold banquets," a library with second-hand "substitutes for thought," and a "pompous sentinel" to ensure the present did not invade the past. The sentinel stood

> With garb of horn and fossil shell,
> To catch, arrest and smother
> Any chance idea or other
> That might find its stray unbidden way
> To those dim musty purlieus gray. (Boydston, 1977, p. 78)

Dewey wanted a different model for students. He did not want teachers who displayed knowledge for others to see, who shielded themselves from ideas that might breathe new life into their thinking, who interpreted fresh

experiences in terms of musty categories, who protected themselves from the present by hiding in antiquity, and who consumed remote intellectual fare in chilly banquet halls. Nor did he want teachers who frequented repositories that were filled with hand-me-down ideas and who guarded themselves from contemporary discoveries. He wanted teachers — and students — who understood that knowledge was always developing, that open-mindedness was necessary to continue learning, that reflection upon current and emerging understandings was invaluable, that searching for new insights from the past and present was necessary, that seeing and explaining the relevance of knowledge was an essential part of teaching, and that thinking for oneself was the only sure way to remain intellectually alive.

Why was Dewey so critical of the pedant? Beyond the obvious reasons, he understood that teachers were an important part of the living curriculum and that students were prone to adopt and develop the attitudes, dispositions, and understandings of their teachers. He obliquely but forcefully argued for the development of a particular kind of student by warning against the pedant. Predictably, his most dramatic warning was to professional educators, the guardians of antiquated, intellectual collections and pedagogical practices:

What avail is it to win prescribed amounts of information about geography and history, to win ability to read and write, if in the process the individual loses his [or her] own soul: loses his appreciation of things worth while, of the values to which these things are relative; if he loses desires to apply what he has learned and, above all, loses the ability to extract meaning from his future experiences as they occur? (Dewey, 1938/1963, p. 49)

CONCLUSION

A study of Dewey's poetry and its illumination of his concept of the student is not likely to change what many think about his controversial opinions. Indeed, the new insights, fresh meanings, and powerful expressions found in his poems may simply confirm the prior judgments of many critics. To claim, therefore, that the relevance of his ideas for the future depends in part upon how much his readers agree with his philosophy is almost not worth saying. Yet, this point cannot be ignored. Those who think Dewey's philosophical beliefs about students and pedagogy are seriously flawed can hardly be expected to welcome his poetic assertions. On the other hand, some may agree with much that he thought and still object to his views of human impulses, self, and significance. Moreover, his theory of

self may leave critics wondering how a balanced approach to the creation of the self by both the child and the school can be ethically and operationally accomplished. How can so many creators of a child's self leave room for her or his personal identity and integrity? So, too, those who argue that Dewey had an "ultrasocial conception of individuality" will not be comforted by his poetry (Ryan, 1995, p. 319). Similarly, those who are immersed in contemporary psychological theory and research may doubt the validity of Dewey's classifications and descriptions of original impulses and their relevance for schooling. Further, those who have learned from postmodernism may question his tendency to universalize student impulses. For a variety of reasons, both his critics and proponents may challenge his assumption that all students need to be physically as well as intellectually active. Does this belief imply too much, i.e., does it question the learning abilities of the physically challenged? Likewise, contemporary thinkers may believe that Dewey placed too much emphasis on a student's natural learning propensities and too little on how a school and a student develop an adult mind. Acquiring an adult mind, critics may insist, is too complex an undertaking to be guided by natural theory of learning alone.

Of course, one may agree with aspects of Dewey's concept of students and pedagogical thought while objecting strenuously to some of his basic assumptions and beliefs. Rightly understood, for example, it may appear that his attention to students, teachers, knowledge, and society is a healthy counterbalance to fashionable trends that sweep certain quarters. These fashions sometimes take the form of emphasizing teachers or students, knowledge or students, or some other dichotomy. These components were important to Dewey because he viewed each as a critical part of the educational enterprise. Growth is an interactive process that involves educators, students, knowledge, and the broader environment.

Dewey's attention to means and ends may also be important in environments that tend to overemphasize either methodology or outcomes. He was interested in the means of education as well as the outcomes. The ethical justification of the means — the lack thereof being a primary source of smothering, choking, and destroying students — was as important as the rationale to pursue a set of ends. He may also raise our sights in the area of ends in a way that too few politicians and bureaucrats appreciate. For instance, he was interested in moving beyond narrowly defined student performance standards to nurturing reflective children and youth who are contributors to the development of healthy societies. Stressing the ends of personal and community growth may be a healthy counter force to the overemphasis of some on the relationship of schooling to economic outcomes. Arguably, Dewey's treatment of non-, mis-, anti-, and educative

experiences can be a helpful concept as educators make curricular decisions. For Dewey, one experience was not necessarily as good as another because he strongly believed that some experiences nurtured scientific thinking better than others and some contributed to personal and social growth in ways that others did not. He was, likewise, aware that environments and cultures affect students' thinking in positive and negative ways. While open to debate and new developments, he was secure in his belief that some environments manifestly inhibit the reflective development of students more than others (Dewey 1933/1960, pp. 121*ff*).

Nothing less than what Dewey himself recommended will determine the relevance of his concept of the student and related pedagogical thought. That is to say, reflection — "Active, persistent, and careful consideration of . . . [his] beliefs . . . in the light of the grounds that support . . . [them] and the further conclusions" to which they lead — on his view of students and teachers as communities of inquirers will determine the appropriateness of his ideas (Dewey, 1960, p. 9). His poetry offers no escape from reflection about students and teaching. Indeed, it pushes even more dramatically for reflection: "By love of learning, let me find/My own last essence, Mind" (Boydson, 1977, p. 61). This love of learning is not fully understood if anyone thinks it is always a joy to reflect and forgets that learning has its share of pain brought on by probing deeper into issues, questioning beliefs, searching for alternative perspectives, and thinking through options (Boydson, 1977, p. 58). If Dewey's concept is sound, it is the student's nature and, ideally, destiny to experience the joys and pains of inquiring, reflecting, and learning. But the pain should come from educative learning experiences, not from walls that schools and society create to stymie the learning and development of the student.

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Through a Class Darkly: Visual Literacy in the Classroom

Deborah L. Begoray

"Viewing and Representing in the Middle Years" was a two-year project to investigate visual literacy in the English language arts classrooms of three teachers. These teachers tried a variety of approaches and were generally optimistic about the benefits of the increased inclusion of visual materials. They did, however, report a number of challenges in using viewing and representing approaches as part of their curriculum. Teachers' previous experiences influenced their implementation of an expanded notion of literacy in English language arts, as did the influence of the university-based researcher conducting this investigation.

L'article porte sur la visualisation et la représentation dans les premières années du secondaire dans les cours d'arts langagiers en anglais. Trois enseignants ont essayé diverses approches. Bien qu'ils voyaient d'un bon œil le fait d'inclure davantage de matériel visuel, ils ont signalé plusieurs difficultés reliées à l'utilisation d'approches de visualisation et de représentation dans leurs programmes. Les expériences antérieures des enseignants, tout comme la présente recherche, ont exercé une influence sur leur façon d'implanter une notion élargie de littératie dans les arts langagiers en anglais.

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Educators implementing new English language arts curricula (Atlantic Provinces Education Foundation, 1998; Governments of Alberta, British Columbia, Manitoba, Northwest Territories, Saskatchewan and Yukon Territory, 1998; International Reading Association and National Council of Teachers of English, 1996) know that today's youth have to handle a world that contains multiple forms of literacy (Bean, Bean, & Bean, 1999; Berghoff, 1998; New London Group, 1996), many of which are not traditionally studied in classrooms. They observe that students are "increasingly able to comprehend the multiply layered visual and verbal information from television or computer screens" (Flood, Heath, & Lapp, 1997, p. xv). Teachers and curriculum developers, however, have shown some reluctance to embrace visual literacy in the classroom.

The Viewing and Representing in the Middle Years Project, described below, examined the instructional approaches and the reflections of three teachers (one each from grades 6, 7, and 8) in a Canadian middle school as

they explored what it means to include *viewing* and *representing* in their teaching.

Viewing is an active process of attending to and comprehending visual media such as television, advertising images, films, diagrams, symbols, photographs, videos, drama, drawings, sculpture, and paintings. *Representing* enables students to communicate information and ideas through a variety of media. (Governments of Alberta, British Columbia, Manitoba, Northwest Territories, Saskatchewan and Yukon Territory, 1998, p. 3)

My research question for this study was: What is the nature of middle-level teachers' experiences implementing visual literacy (viewing and representing) into their classroom teaching strategies?

NEW DEFINITIONS OF LITERACY

The theoretical conception of literacy is undergoing a metamorphosis. Where once it meant an ability to read and write, often to some arbitrary level (grade 4 perhaps), society now demands both more sophisticated ability in traditional print text (words on the page) and also the skills of other sign systems such as visuals.

In the 1990s, some researchers began to suggest that including other ways of knowing as equal partners with reading and writing would be beneficial for all students, "not so much as talents that some may have and others may not have [but] as potentials by which all humans might mean" (Leland & Harste, 1994, p. 339). Educators looked at other sign systems such as those used in music, art, or film that could be used by students in a variety of subject areas. As Rief (1992) reminded us: "I need to remember to give my students the opportunities to say things in ways they have 'no words for' " (p. 164).

Several theoretical traditions provide partial frameworks to guide investigations into visual literacy education. Both arts education (music, movement, art, drama) and mass-media education (newspapers, television) offer teachers ideas for including visual sign systems to increase ways for students to more richly respond to their worlds (Eisner, 1992). New ideas, however, need time to develop. Changing the traditional reading and writing focus of the language arts classroom will not be accomplished without efforts to develop teachers' store of instructional approaches. Sinatra (1986) reminded us that "[v]isual literacy is the active reconstruction of past visual experience with incoming visual messages to obtain meaning" (p. 5). It will be achieved only by engaging teachers and students in different approaches to learning.

NEW ENGLISH LANGUAGE ARTS CURRICULA

New knowledge and risk-taking attitudes such as giving up some measure of control and certitude are necessary for teachers to help learners experience, understand, and create texts such as cartoons, films, photographs, videotapes, web sites, or drum dancing. Materials and approaches provided in curriculum documents and accompanying government-sanctioned workshops set the context for the development of visual literacy in the classroom. Research has indicated, however, that curriculum implementation is the most problematic step of instructional change (see, for example, Cohen, 1995). The introduction of a new curriculum that mandates viewing and representing across western Canada (Governments of Alberta, British Columbia, Northwest Territories, Manitoba, Saskatchewan and Yukon Territory, 1998) offered me an opportunity to investigate what actually happens in classrooms and what teachers consider when asked to include viewing and representing in English language arts. The purpose of this study was to institute a long-term project, featuring extended fieldwork, which would serve to describe the expansion of language arts in three classrooms to include a broader view of literacy.

METHOD

The research conducted at Pickford Middle School (pseudonym) was an interpretive ethnography in which I explored the nature of teachers' experiences in including more visual literacy in their teaching. Ethnography, in common with all qualitative research, takes as its credo that "the nature of the social world must be discovered; that this can only be achieved by first-hand observation and participation in 'natural' settings and guided by an exploratory orientation" (Hammersley, 1992, p. 12). However, my presence as a researcher also influenced the practices of this particular school's culture. As in previous studies (Begoray, 1995), I discovered that establishing and maintaining relationships was a crucial part of the investigation.

Participants and Setting

The study focused on a newly constituted middle school (grades 5 through 8) in a new, middle-income suburban area in a mid-size Canadian city. The school division had selected a principal most likely to succeed in overseeing the birth of a new middle school. In turn, she selected a staff

through a special application process to ensure that all the teachers of Pickford Middle School believed in a philosophy of middle-years education as espoused by the National Middle School Association (1995). According to this philosophy, the teachers of Pickford Middle School focused on the needs of the transitional learner, rather than concentrating on subject disciplines that might be evident in a junior-high-school model. A middle-years approach to learning includes the integration of subjects (language arts with social studies, math with science for example). Teachers at Pickford Middle School were teamed in grades 7 and 8. In grades 5 and 6, teachers were responsible for all core subjects. The school also had specialists in art, band, and physical education.

I solicited teacher participants for this research at a school staff meeting and selected a research group of three teachers.

Sam (all teacher names are pseudonyms) was a grade-8, language arts and social studies teacher during the first year of the project. In the second year, his assignment changed to language arts only. Sam's students regularly won poetry contests, and he freely admitted that writing was the primary focus of his classroom. He had a Bachelor of Education degree and 28 years of experience in teaching. He participated in frequent poetry workshops with other teachers, worked on a provincial curriculum development group, and sat on the executive of the provincial English teachers' professional association.

Colleen was a grade-6 teacher in a self-contained classroom where she taught all the core subject areas to one group of students: language arts, mathematics, science, and social studies. During the project, she was a first- and second-year teacher. She had had a year of short, temporary contracts prior to beginning at Pickford Middle School. Colleen had a Bachelor of Education degree and a keen interest in the fine arts.

Dennis, a grade-7 teacher of language arts and social studies, who had been teaching for 20 years, had a Ph.D. in Educational Foundations. He maintained an active research agenda during his teaching, and presented papers at conferences. Dennis was particularly interested in using English language arts outcomes to teach social studies content. He frequently served as acting principal. During year two of the project, Dennis was seconded to be the half-time teacher liaison in middle-years education at the university.

Researcher's Role

During the two years of this project, I undertook several roles as researcher. As a participant-observer in the school community, I regarded my research as ethnography, recording the classroom events and teacher thoughts, but

also becoming involved in the life of the school. Because the school was new when I began the project, I had little difficulty gaining access and being accepted as a member of the school community. Because this faculty was searching for an identity, researching their practice quickly became part of what teachers did at Pickford Middle School.

I was, in some ways, just another new face in year one. I began my work as a researcher gathering descriptive data on teachers' practice and concerns in the inclusion of visual literacy. As a professor of language arts methods, I was frequently asked to give advice on implementing the new curriculum. During year two, I met this request by providing books and articles on visual literacy and doing presentations for the staff on research findings. My use of videotaping to record and share lessons and interviews with teachers became a model for the teachers who recorded some of their own lessons in year two. Perhaps inevitably, my presence as a university-based researcher influenced the study.

Data Gathering

I videotaped each teacher doing four lessons of their choice that they believed featured the use of viewing and representing approaches to learning. One lesson was recorded in the fall term and one in the winter term in each of the two years of the project. Teachers kept weekly written journals of their work with viewing and representing. I interviewed them at the end of each term in which issues arose in their lessons or in their journals. I videotaped these interviews. Teachers watched the opening five minutes of their lesson as part of the interview, and then, during their response to questions, often referred to their journals. The teachers had the opportunity to read and modify transcripts of interviews. I also recorded viewing and representing approaches that the teachers used in taped lessons, recorded in journals, or mentioned during interviews. During year two, I interviewed students for their reactions to lessons taught with a viewing and/or representing focus.

Data Analysis

I handled data analysis as an ongoing process during the two years of the project. After conducting interviews, I transcribed them and used transcriptions as the primary source of data. Teachers' journals were also a source of information as were my own observations. I asked informants to view or listen to tapes of their teaching and to comment on instructional events during research meetings that were held once per term. Teacher

participants at these meetings read and revised transcripts; their comments during member checks became part of the data.

I examined and coded transcripts of the interview tapes, journals, and field notes with reference to my research questions. I then reviewed the original data to discover emerging themes and patterns. I refined themes as data collecting and analysis continued in year two (Huberman & Miles, 1994). I also drew comparisons between findings from each year of the study.

To ensure trustworthiness of data, I undertook a prolonged engagement at the research site and with my data, and used member checks to assist with the validation of the data. Nevertheless, it must be noted that I set out on this study believing in the importance of visual literacy. I am also a writer of provincial curriculum documents based on the Western Canadian Protocol (Governments of Alberta, British Columbia, Northwest Territories, Manitoba, Saskatchewan and Yukon Territory, 1998) and therefore well entrenched in a point of view on viewing and representing. Thus, my "findings constitute a perspective rather than truth" (Patton, 1990, p. 482).

FINDINGS

During this two-year study, I observed, or teachers reported, more than 70 different viewing and representing approaches. Perhaps not surprisingly, teachers reported that using viewing and representing in lessons seemed to positively influence student learning and their ability to assess that learning. Students' comments reinforced this view. However, teachers all reported a number of challenges in teaching visual literacy, such as coping with student attitudes, lack of time, and their own general ambivalence about implementation. In the following discussion I review each of these areas — approaches, benefits, and challenges. To illustrate my discussion, I have used quotations from the interviews. Comments from Sam, Dennis, and Colleen revealed the complexities of integrating an expanded notion of literacy into the English language arts curriculum.

Viewing and Representing Approaches

I began the Viewing and Representing in the Middle Years Project with the purpose of describing what teachers included in their lessons to help students develop ability in new ways of knowing. Although I initially intended to discuss with teachers the viewing and representing approaches they were already using, the project inevitably raised teachers' awareness and caused them to attempt more approaches during the project period (20 weeks spread over two years): "I think just by becoming involved in

this project it's heightened my awareness of the fact that there are these two extra strands [viewing and representing] to the language arts programming and we need to address them" (Dennis).

Some of the approaches reported during the project are clearly *viewing*, that is, analyzing, appreciating, and criticizing visuals such as a lesson about looking closely at photographs to determine emotional reactions to news events. Other approaches are obviously *representing* in that students were creating visual texts.

The teachers often integrated viewing and representing activities. Just as they used writing to teach reading, or listening to strengthen speaking, they frequently taught viewing and representing together. This tendency to integration was markedly greater in year two where viewing and representing had become the focus of many projects that involved two or more subjects (Begoray, 2000).

Dennis' classroom. Dennis, who frequently integrated language arts with social studies in grade 7, used mainly viewing activities in his classroom in year one of the project. Dennis was particularly interested in news reports and was in fact researching his students' response to the idea of a news cycle (the rise and decline of interest in a news event). His traditional emphasis on print text of a news story began to change with the beginning of my research project. His students began to examine newspaper photographs for extra information. In Dennis' classroom, students read newspaper stories with special attention to the effect of the accompanying picture on the viewer: "to help [students] locate details of their stories or issues . . . visuals were able to communicate particularly the emotional aspects of their stories" (Dennis). For one project, students created collages of the pictures that accompanied two news stories, one on Hurricane Mitch and the other on the founding of Nunavut, and compared the emotional impact (rage and grief, pride and happiness) of the new visual texts.

Techniques Dennis might have used before, such as showing a video clip, became more purposeful as he considered the necessity of teaching visual literacy:

Many of the students said "I would never have had that understanding without seeing the rage of the people and understanding why are they so upset." It's kind of difficult to do that with a textbook or just, even a newspaper article. Really difficult to do that — to see how disasters and major world events affect people on the street. This was a good example of how a video [-taped news report] would do that. (Dennis)

Students in Dennis's class were intensely interested in the reaction of ordinary people to a natural disaster, a response that came alive during

the close viewing of a video clip. This viewing activity also led them to collect words to describe the scene, and to represent it by creating word webs, a combined text using print and visual sign systems.

During year two, Dennis's research interests turned to Socratic seminars and he began to investigate the use of videotape to evaluate student participation. He used his tapes as a record of students' learning activity for use in their self-assessment. Dennis's interest in news events continued with the examination of the visual language of editorial cartoons such as representations of bombs used as bars on a graph to comment on war in the Middle East. This lesson led to a more focused look at many types of graphs: how they are used to represent information, or how they are abused (for example, to make a small change look very large on a line graph by using wide spaces between numbers on one of the two axes).

Colleen's classroom. Colleen was a first- and second-year teacher during the project. She emphasized representing activities in her approach to visual literacy. Before she joined this study, she had filled her room with pictures, posters, models, and costumes. Much of it was student work, some was commercial, and some of it was created by Colleen. Her students did elaborate art and drama projects as part of their day-to-day lessons. Colleen was a very enthusiastic research participant in both years. During year one, she was eager to gather more ideas and frequently asked me for suggestions, reactions to her lessons, or copies of articles and books on visual literacy. She especially loved drawing, and began immediately to demonstrate its use during taped lessons when I introduced the project. She was very pleased with her grade-6 students' responses to representing:

After [reading] about the first 50 pages [of a novel], I noticed many students looking around the room, playing in their desks, and even sleeping! Many students were lost. . . . I began the novel all over. This time I asked them to picture what was happening in their heads, to make a movie and picture the scenes. . . . The students sketched away as I read. . . . They didn't want me to stop reading. (Colleen)

Such early forays into representing led quickly to a series of lessons on cartooning that included students looking carefully at models, creating an original cartoon character, or summarizing a story as a cartoon strip.

By year two, Colleen was more self-confident. She sought out colleagues such as Sam to learn more about book illustration. She teamed with the physical education teacher to teach her students to create games. For example, the students used their new knowledge in small groups to write rules and demonstrate their understanding of the movement of Loyalists from the United States to Canada using a variety of gym equipment (bean bags, field markers, hoops). During the game, Colleen's students reported

positive affective and aesthetic responses to information and higher-order thinking skills (especially synthesis/creativity). One student commented, "I think that doing a game is better [than copying notes or reading], because you have to make it up, so you obviously have to know more things about this topic to be able to make up a game." Another added, "This way [by creating a game] we can actually like get involved in what other people think about how the Loyalists and Patriots traveled."

Sam's classroom. Sam was an eager participant in year one of the research study. Over the two years of the project, his classroom featured a balance of viewing and representing approaches. I had heard about Sam's work before we met because of his students' remarkable performance in poetry, winning provincial writing contests year after year. We eventually met during a curriculum-writing project and later served together on a provincial association of English teachers. Taking the ideas of Atwell (1998) to heart, Sam had implemented writing and reading workshops fully in his classroom. He visited Atwell's classroom in New York and returned full of new ideas for helping his students to grow as writers.

During that first year, I watched small groups of his grade-8 students create elaborate visuals on large sheets of rectangular paper. Each group had read and written about a different novel. They created plot lines around the four sides of the sheet by creating a series of pictures. They filled the middle of the page with pictures and words from magazines to illustrate the novel's themes. Sam and a student teacher worked in turn with each group on planning and drafting, revising ideas, evaluating, selecting, and placing images.

During year two, Sam embarked on a series of reading and writing lessons on imagery and also decided to try to involve all the grade-8 students at Pickford Middle School in a career inquiry project. He had saved videotapes created by previous classes when he had conducted the inquiry as an English language arts project and used these as exemplars. The production values of the model videos were very high — costumes, editing, quick cuts, and fades — capturing his students' attention and demonstrating the quality he was asking for in their own projects.

Teachers' Experiences with Viewing and Representing

The number of viewing and representing approaches reported in all classrooms shows that teachers had many ideas for addressing visual literacy. Teachers were eager to try a wide variety of activities during the project and, indeed, there was almost no overlap between approaches reported or observed in year one and those in year two. There seems little

doubt that the project and the regular presence of a university researcher interested in visual literacy had an impact on the numbers of approaches tried by teachers.

Viewing activities in classrooms most often featured analysis (looking at details). Appreciation (recognizing quality and/or significance) and criticism (evaluation), although specifically called for in language arts curriculum documents, rarely occurred. Students occasionally evaluated their own work or the work of classmates. For example, the only time Dennis asked them to critique the work of a professional was when he asked them:

What goes on in photographers' minds when they go to set up a shot? They have to decide, I would imagine, ahead of time, what their focus is. Is it on the emotional side of the story or is it to communicate a wider message? (Dennis)

Benefits of Viewing and Representing

Viewing and representing approaches stimulate learning. "I can listen to him for a while, but then I'm sort of doodling and stuff, because it just doesn't keep my attention" (grade-8 student commenting on a lecture approach). Both teachers and students at Pickford Middle School reported more learner attention during lessons that featured viewing and representing, often resulting in greater immediate understanding. Colleen's use of the Loyalist game suited these young adolescent learners well, an approach that invited a greater variety of learners to participate in classroom learning. Colleen realized that her students had diverse talents: "If they are able to act out the concept 'point of view' this would demonstrate they understand. Some students may not be able to express this [concept] in their writing so it gives them an opportunity to express in a different form." Because middle-years students are still moving from concrete to abstract thinking, their use of visual representations seemed to enhance their learning.

Representations offer clear evidence of learning to aid assessment. Visual products concretely illustrate to both teachers and learners whether students have learned concepts. Instances of video recording by teachers and students as part of teaching and learning projects were reported much more widely during year two. The teachers in the project began to make much more extensive use of videotape in their own classrooms to archive moments for further analysis. Colleen used her tapes to analyze her teaching performance in much the same way as she had been recorded as a student teacher. All three teachers used videotaping to record student

work for sharing with future classes. Dennis used videotape to record student achievements to assess their level of performance during Socratic seminars and as an instructional aid:

It is clear to me that the use of videotape will not only allow me to evaluate each student more accurately because I'll be able to re-visit the seminar a number of times, but it will also allow me to use each seminar as a "teaching tool" for the next [seminar]. (Dennis)

However, he wondered about students using videotape for their own self-assessment:

My only reservation relates to the weaker students. Seeing themselves perform ineffectively can't be great for their self-esteem. However, I think seeing the contrast between their performance and the performance of stronger students should make it easier for these students to see where, specifically, they need to improve. (Dennis)

Challenges in Implementing Visual Literacy

This study's findings indicate continuing challenges for those seeking to encourage and implement viewing and representing in the English language arts.

Viewing and representing are often undervalued or misunderstood. Middle-years students sometimes see the use of visuals during class time as an opportunity to escape from work. "There's a few of them, I know that they're not focusing on the point of view of the story. They're just so excited about the play that they're overlooking what the main lesson was about" (Colleen).

Alternatively, students can become overly focused on visual representations as only artistic products that must look nice rather than as ways to investigate or represent learning. However, during the project teachers began to convince students that, for example, models and posters were not just for the artistically gifted: "They're really beginning to see how what they represent has to go in depth in terms of representing their learning, not just be pretty" (Sam).

Viewing and representing require more time to prepare and deliver. As with any new approach, the extensive integration of visuals requires teachers to do more investigation and experimentation. Whether it is simply the newness of these ideas, which is a passing difficulty, or whether viewing and representing will always be more time-consuming remains a question. The crucial point for teachers was the cost-benefit analysis: "I have to be more strategic in planning to include viewing and representing,

unlike reading and writing where I know from experience what activity would work best in a given situation" (Sam).

Teachers' prior experience influenced their use of viewing and representing in the classroom (which was minimal, especially during year one). Comparing the reactions of Colleen and Sam to the idea of art as a way to respond to literature indicates that prior experience and attitudes vary widely. Colleen reported during an interview:

I love drawing. I do a lot of watercolour painting. I've done tons of sketching charcoal and pastel. . . . I don't see it as something you have to learn. It's something that we already know and it's just drawing it out of a person. (Colleen)

Sam admitted, "It's not my preferred mode. I can't draw a stickman." Dennis realized that today's middle-years students are growing up in a world different than that of he and his colleagues: "Overall, these kids are light years ahead of where we were at that age. They realize that there ARE other ways of communicating ideas besides through reading and writing." Teachers' attitudes influenced the willingness to be persuaded to implement viewing and representing.

My presence for two years as a researcher interested in visual literacy who used visual research techniques in my own research encouraged viewing and representing approaches at Pickford Middle School. Building on a background of research team relationships — sharing, trying, and discussing ideas — year two saw evidence of growth in the use of visual literacy from year one.

Year two, for example, marked the first three-teacher subject integration project (initiated by Sam), in which teachers asked students to investigate careers and represent their learning in a number of creative ways. During year two, Colleen used the expertise of others to help her to teach visual literacy (for example Sam demonstrated a lesson on examining picture book illustrations) but also became an equal partner in a social studies, language arts, and physical education project (the Loyalist game). Dennis developed and taught a series of writing lessons using a slide show and band performance on Remembrance Day that the art and music teachers had developed.

The teachers became more critical of approaches to teaching visual literacy. Dennis acknowledged that viewing videotapes helped both him and his students to assess their work; he later suggested that the use of such evidence must be carefully considered because it can prove threatening to those recorded:

The dynamics of the seminar were generally dominated by a small number of verbal boys. . . . Although initially I saw the use of video as an effective teaching tool, I wonder now if it might be discouraging rather than encouraging these girls . . . . is the use of video accentuating the power differences that already exist in the classroom? (Dennis)

He gave students more choice in their own representing work and they discovered that visuals can be more difficult to create than might be anticipated. Students discovered, for example, the challenge of producing videotapes and the ease of making overhead transparencies (which might be more appropriate for some representations of knowledge).

In year two, Colleen discovered that she could be both creative and critical of viewing and representing, whereas in year one she was mostly anxious to gather ideas that she could use directly in her own classroom. Sam, who began the project enthusiastically in year one as one who integrated viewing and representing into language arts and social studies, became much more ambivalent in year two. He reported that his teaching assignment, which had changed to language arts alone, did not encourage him to use viewing and representing (despite its presence in language arts curriculum documents). Ironically, observations of his teaching showed that he emphasized visualization as a way to improve student reading comprehension and writing ability. Sam did not see these approaches as viewing and representing until his interview in the middle of year two:

[Visualization techniques] really helped my weaker readers learn to conceptualize, learn to see pictures in their mind as they read. I never thought of it as a viewing and representing sort of thing. Adept readers do that naturally, and they don't even realize that those pictures happen in their heads when they read, but weaker readers tend not to have anything happening — they feel the meaning is all embedded in the text. (Sam)

By the end of year two, Sam was leading a multi-disciplinary project across grade 8 which featured viewing and representing activities. He reported that he had a picture of himself as a teacher of visual literacy "being dragged along, but with a big grin on my face."

DISCUSSION

Current shifts to a more postmodern literacy that includes print, oral and visual texts, and multiple perspectives contribute to a climate favourable for reconsidering traditional approaches and challenging the status quo in many language arts classrooms.

Bridging the gap between new ideas and practical implementation is

the next step. Eisner (1994), a long-time advocate for the diversification of meaning-making opportunities in the classroom, comments that "[r]econceptualization, although it is a necessary condition, is not enough" (p. 89) — we need to put those ideas into operation. Not only do students need opportunities to view and represent, but teachers need motivation to make these changes to include this new sign system in their teaching. They also need to have opportunities to build their own visual literacy supported, when possible, by other professionals. When teachers' traditional approaches to language arts teaching are challenged, as Sam's ideas were, teachers need to find ways to build on their prior knowledge of more established approaches to literacy. Also, Sam may have felt pressure from my presence to adopt strategies that made him uncomfortable and abandon those in which his expertise was acknowledged. University-based researchers must always be aware of power and control issues in their investigations.

The inclusion of visual literacy in the language arts classroom can be a democratic enterprise. Viewing and representing assist those students who struggle to say what they mean using linguistic sign systems. All learners, however, no matter what their propensities, need to develop their potential to represent their understanding of ideas in a variety of ways. Students can learn some concepts better through one sign system than another. In offering students more opportunities to participate in a variety of communicative arts, teachers offer them as well chances to say more.

Although I had the benefit of long-term involvement with a staff, I investigated visual literacy only within a single school, one that has a relatively homogenous student population. Some of these students, however, proved to be particularly eloquent about their support for visual literacy:

I find it — it like grabs people's attention. If I look around the class when our teacher's just standing up there talking about a whole lesson, a lot of people are just like — their heads are down on their desk or they have wandering eyes. But when I watched during the visual representing we did, a lot of people were looking and really paying attention to what was happening. (grade-8 student)

Other researchers could repeat this study at schools with a broader multicultural and economic background and with different age groups. Moreover, the teachers in this study were few in number and were volunteers drawn from a handpicked staff. More investigations with more teachers and students need to be completed to further understanding about how to implement visual literacy in the classroom.

Implications for Professional Development

Teacher-education and curriculum-support documents offer in-service and pre-service teachers assistance with methods, such as suggestions for viewing and representing, so that they might continue to improve their teaching. The presence of on-site advice and demonstrations (such as what I provided at Pickford) would also be helpful in building the necessary knowledge and skills. As a researcher, I found that teachers' ambivalent attitudes and lack of experience with visual sign systems was a challenge as was my influence on their school culture.

Sam, for example, had previously experienced tremendous success in his language-arts program with the use of Atwell's (1998) theory of teaching reading and writing. Despite volunteering for the viewing and representing project and personal acquaintance with me, the new ideas and, perhaps, my presence challenged his professional self-image. Of great interest was Sam's persistence in the face of less than salutary experiences with visual approaches in his past and his ambivalence, which may have resulted from these experiences. Sam was, nevertheless, an active teacher of visual literacy. His use of guided imagery during reading workshops pointed to the possibility that viewing and representing may best be connected to more traditional areas of expertise for experienced teachers to adopt their use. On the other hand, Colleen had more experience with the arts. Her challenge was to discover ways to introduce her knowledge to her students in language-arts contexts. She was a recent education graduate who was used to the presence of a university professor in her classroom. Dennis adopted a researcher's attitude to his teaching. His approach was to introduce new ideas and then reflect systematically on his students' responses to them. With his own doctorate in hand, he may have been the most secure in his own expertise when I visited his class. All three teachers, nevertheless, discovered ways to integrate visual literacy into their language arts curriculum.

As noted above, the teachers' use of viewing activities during this project tended to stress analysis and rarely introduced appreciation or criticism of professional work. In the same way educators teach students to discuss the significance and quality of literary works, they might also encourage a critical stance towards visual representations. Arts specialists can certainly begin to help their colleagues in the regular classroom to undertake this challenge. Film criticism and the assessment of mass media can also be used in the classroom. The alternative is to raise this generation of students to believe that if a film, cartoon, or web site, for example, has been made

public it must be good and truthful — or, on the other hand to imply that all visuals are manipulative and evil. Just as it is accepted that not everything in print can be believed and that opinions vary in evaluation of novels, editorials, and technical manuals, so there are discussions regarding quality surrounding all manner of visual representations.

FINAL WORDS

The viewing and representing project at Pickford Middle School was clearly only a beginning in understanding the teaching of visual literacy — we see through the class "darkly," making only tentative conclusions. Visual literacy, it seems, will only become established in language arts classrooms once both teachers and students have opportunities to adopt new strategies and attitudes. Only by building a store of background experiences can expanded theoretical notions of literacy become classroom realities. Challenges in researcher-participant relationships, nevertheless, seem likely to continue. The establishment of long-term research projects such as "Viewing and Representing in the Middle Years" can make possible the development of collaborative partnerships to effect significant gains in understanding for both teachers and university-based researchers on new approaches to English language arts.

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Enhancing Professional Knowledge: A Case Study of an Elementary Teacher

Karen Goodnough

In this case study, I report on the teacher development that resulted when an elementary teacher explored multiple intelligences theory (MI theory) and used it as a guide to make decisions about her curriculum planning and classroom practice. Several data collection methods and sources were used — semi-structured interviews, participant observation, group action-research meetings, and journal writing. Through critical self-reflection, she became more adept at integrating many aspects of her professional knowledge — subject-matter knowledge, pedagogical-content knowledge, knowledge of her own strengths and weaknesses as a teacher, and knowledge of how students learn — thus enhancing her ability to teach science.

L'auteure rapporte une étude de cas portant sur le perfectionnement professionnel. Une enseignante du primaire a étudié la théorie des intelligences multiples et s'en est servie pour planifier ses cours et choisir ses méthodes pédagogiques. L'enseignante a réussi à mieux intégrer ses compétences professionnelles – connaissance de la matière, du contenu pédagogique, de ses forces et de ses faiblesses comme enseignante et du mode d'apprentissage des élèves –, ce qui lui a permis d'améliorer son aptitude à enseigner les sciences.

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This project was useful for "taking stock" of my students, for exploring their preconceived notions about something, for discovering what kinds of activities motivate them, and for assessing formally how much learning was taking place. It appears to have been extremely useful in assessing where I am with my teaching and what I might focus on next. (Celia, diary entry, May 12, 1999)

Celia, an elementary teacher, entered this comment in her diary after participating in a professional development initiative over a period of several months. It reflects her personal and professional growth as she explicitly examined many aspects of her professional knowledge and practice. As part of a collaborative group of four teachers (two elementary teachers, one intermediate science teacher, and one high-school science teacher) and me, a university researcher/facilitator and the author of this paper, Celia adopted action research as a strategy to

explore multiple intelligences theory (Gardner, 1983, 1999) for teaching elementary science in her grade-5 classroom. Through participation in this study, Celia responded to current calls for educational reform in science education and her own desire to offer all students a meaningful and engaging science curriculum.

Educational reformers see many targets for change in science education (American Association for the Advancement of Science, AAAS, 1989, 1993, 1998; Council of Ministers of Education, 1997). For example, AAAS (1998) suggests the need for change at several levels within teacher education, including changes in undergraduate teacher education, teacher recruitment, college and university teaching, and professional development for teachers. Furthermore, this call for change is consistent with a body of literature that points to a need to support and promote teacher development. Research has shown that many elementary teachers feel uncomfortable teaching science and lack confidence in their ability to teach it (Holroyd & Harlen, 1995, 1996). They often adopt coping strategies such as teaching as little science as possible, avoiding difficult topics, relying heavily on textbooks, using outside experts, or overemphasizing practical activity (Harlen & Holroyd, 1997; Lee, 1995).

Current reform initiatives will require "a substantive change in how science is taught; and equally substantive change is needed in professional development practices" (National Research Council, 1996, p. 56). Teachers will need support and encouragement to participate in a variety of professional-development opportunities to foster an understanding of science and science teaching and to learn to change their practices to make them consistent with new reform ideals.

In this article, I describe Celia's experiences as she translated the basic tenets of multiple intelligences theory (MI theory) into classroom practice to enhance her professional knowledge and practice. She adopted MI theory as an instructional organizer[1] (Bennett & Rolheiser, 2001) to explore her professional knowledge of science teaching and learning, and to develop a greater awareness and understanding of her goals, values, and personal strengths and weaknesses.

Several questions guided this research: (a) How did Celia interpret MI theory? (b) How did she translate MI theory into classroom practice? and (c) How did she enhance her professional knowledge in the context of science teaching and learning as a result of adopting an MI theory approach?[2]

TEACHERS' PROFESSIONAL KNOWLEDGE

Education scholars have proposed several frameworks to describe teachers' professional knowledge base for teaching (Carter 1990; Clandinin & Connelly, 1996; Connelly & Clandinin, 1988; Elbaz, 1981, 1983; Grossman, 1995; Shulman, 1986, 1987). For example, Elbaz (1981) believes that teachers possess a broad range of knowledge, often tacit knowledge: knowledge of subject matter; of classroom organizational and instructional techniques; of the structuring of learning experiences and curriculum content; of students' needs, abilities, and interests; of the social framework of the school and its surrounding community; and of their own strengths and shortcomings as teachers. She states that teachers' knowledge is "dynamic" and "is held in active relation to practice and used to give shape to that practice" (p. 47).

MI theory helped Celia explore and enhance several aspects of her professional knowledge of science teaching. In discussing outcomes, I adopted the notion of pedagogical content knowledge (PCK) as an area of professional knowledge that Celia developed. PCK "identifies the distinctive bodies of knowledge for teaching. It represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8). To consider Celia's professional growth, I used Elbaz's (1981) framework, which helped Celia understand herself as a teacher.

MULTIPLE INTELLIGENCES THEORY

MI theory[3] represents a pluralistic view of intelligence that is premised on several key principles:

Each person possesses all . . . [eight] intelligences.
Most people can develop each intelligence to an adequate level of competency.
Intelligences usually work together in complex ways.
There are many ways to be intelligent within each category. (Armstrong, 1994, p. 11–12)

According to Gardner (1983), everyone possesses all the intelligences, but they are present to differing degrees, with some being better developed than others. Individuals "can get better at each of the intelligences, although some will improve in an intelligence area more readily than others, either because biology gave them a better brain for that intelligence or because their culture gave them a better teacher" (Checkley, 1997, p. 8).

Since the publication of Gardner's (1983) seminal book, *Frames of Mind: The Theory of Multiple Intelligences*, some educators have embraced his theory, interpreting it in a variety of ways. Educators first used Gardner's theory with young children, but more recently they have adopted it with special populations (Gardner, 1995b). It has been used at all grade levels across many disciplines to identify gifted students, to provide subjects with equal time and emphasis in the school curriculum, to explore teaching styles, to broaden assessment, to meet individual learning needs, to develop integrated curriculum, or to enhance student meta-cognition.

Despite the strong endorsement of MI theory by many in the educational community, scholars have criticized this theory for several reasons. Morgan (1996) claimed that Gardner did not discover new intelligences, but simply reframed what had been traditionally called cognitive styles. Sternberg (1983) questioned the validity of the theory, describing several weaknesses. He believed the evidence is overwhelming for the existence of an executive process within the brain that coordinates different types of intelligence. Gardner, according to Sternberg, does not allow for the existence of a central integrative function. In addition, Sternberg wondered whether Gardner's intelligences should simply be called talents, and he criticized the theory for its lack of a foundation or set of constructs to explain behaviours. Klein (1997) believed the theory is seriously flawed conceptually, empirically, and pedagogically; it presents a static view of student abilities; and it is too broad to be useful for curriculum planning. In responding to Klein's critique of the theory, Gardner (1998) offered substantive clarification on two major issues: domains versus intelligences and the nature of intelligence. In addressing more specific criticisms of Klein, Gardner discussed conceptual, empirical, and pedagogical issues.[4] In terms of pedagogy Gardner's response to Klein describes his belief about the two major implications of the MI theory — theory provides a way to individualize instruction by considering the uniqueness of individual learners and, to represent and teach students curriculum concepts and ideas. I have used Gardner's response to inform my case study of Celia.

To date, limited research has been conducted exploring the pedagogical value of MI theory in the context of science education. Fuller (2001) reported on a state-wide initiative in Massachusetts that explored teachers' perceptions of changes in student learning and changes in their teaching practices after implementing a program called PALMS, Partners Advancing the Learning of Math and Science. PALMS incorporated MI theory and other curricular frameworks and approaches. Teacher participants felt the program had a positive impact on classroom and school culture and

students enjoyment in learning. As well, the teacher participants felt that the program encouraged them to cater to individual learning needs.

Other studies have applied principles of MI theory to motivate students in learning. For example, Lane, Marquardt, Meyer, and Murray (1997) used MI theory to improve content relevance in seventh-grade math, language arts, and science classes in conjunction with teaching students goal-setting processes. From a broader perspective, in a comprehensive three-year investigation of schools using MI theory, Kornbacher and Fierros (2001) sought to identify and document effective implementation of MI theory in schools. Results indicated that MI theory had a prominent influence on improving test scores, discipline, parent participation, and learning for students with disabilities.

METHOD

In this interpretive case study (Merriam, 1998; Stake, 2000), I have reported on the experiences of Celia as she enhanced her professional knowledge of science teaching and learning through the adoption of MI theory as an instructional organizer. The study is both intrinsic, gaining an understanding of a particular case (how Celia developed her professional knowledge and practice) and instrumental (Stake, 2000), providing insight into an issue (science teaching and learning) and refinement of a theory (multiple intelligences theory).

Although I determined the focus of the study — MI theory and science education — I did not impose a specific direction on the research. The research evolved, influenced by all group members. The collaborative research group provided a forum for Celia and other group members to explore ideas, to share ideas and resources, to provide each other with moral support, and to offer feedback about ongoing classroom activities. In addition, both Celia and I used the transcripts from audiotaped meetings as sources of data for interpretation and reflection. We kept journals, assisting us to explore ideas and make our developing understandings more explicit.

I used several data collection methods and sources in the study: semi-structured interviews; participant observation; audiotaped, group, action-research meetings; and journal writing. Celia participated in semi-structured interviews (Fontana & Frey, 2000) at the beginning and the end of the study and in informal interviews throughout the study. I visited Celia's school on six occasions (three- to four-hour sessions) within a four-month period, recording notes about the setting, the participants, and the

activities and interactions (Merriam, 1998). The research group met on twelve occasions over a six-month period; all meetings (ranging from 120 minutes to 150 minutes) were audiotaped.

In this study, data analysis coincided with data collection. In analyzing the data, I used grounded theory (Strauss & Corbin, 1998), beginning with open coding to identify concepts. I assigned labels to units of text from transcripts, field notes, journal entries, and interviews, forming the basis to identify concepts throughout the data set. Simultaneously, I engaged in constant comparison, identifying similar incidents and events to group into the same conceptual categories.

I next used axial coding, generating main categories and subcategories, to establish larger categories and make connections among larger categories and subcategories. After returning to the literature, I conceptualized the emerging categories into two general themes: pedagogical content knowledge (Shulman, 1986, 1987) and knowledge of the self (Elbaz, 1981). To assist with the management of the large amount of data collected, I used NUD*IST (version 4.0), a qualitative computer software analysis program, to assist with coding and retrieving data. In addition, I used the program to generate visual maps of developing categories and their relationships.

When researchers engage in qualitative research, they often have to address issues of soundness or quality. In traditional, quantitative research, this is often referred to as validity and reliability. In qualitative research, scholars have presented a range of criteria to reflect its underlying philosophical assumptions. Many have argued for conceptualizing the notions of validity and reliability differently from traditional, quantitative research. For example, Richardson (2000) rejected the notion of triangulation, stating that this assumes there is a fixed point or object that can be triangulated. Rather, she argued that validity in postmodern text involves crystallization "that combines symmetry and substance with an infinite variety of shapes, substances, transmutations, multi-dimensionalities, and angles of approach" (p. 934). In other words, what one sees in qualitative interpretation depends upon how the inquirer holds and views the crystal — her lens. In reporting this case, I used this notion of crystallization to delve into the complexities of the case, while recognizing the partiality of my own understandings and interpretations.

To facilitate the process of crystallization, I adopted several strategies such as prolonged engagement at the research site, reciprocity, and fostering voice. There was considerable interaction between Celia and me over an extended period of time at group meetings, during classroom visits, and

through numerous telephone conversations. Because of a lack of time and other commitments, Celia was unable to co-author this paper. To ensure that I represented Celia's voice strongly in the writing of the case study, I asked her for feedback about my interpretations of events during and after the completion of the study. In addition, I kept a journal throughout the data collection process to reflect on what was happening and to constantly consider my role in the study. Through this introspection, I was better able to monitor how I was influencing unfolding events and to foster conditions to establish and maintain a collaborative relationship between Celia and me.

FINDINGS

Understanding Celia

Celia had very little formal training and experience in science and science education. "Of all the areas I teach in grade five, science has been the one that has been sadly neglected" (Interview, January 26, 1999). Furthermore, she was clearly ambivalent about joining the project. Although she did state that she had no preconceived notions (which in reality she did) about teaching and learning science, I believe this was her way of saying that she would try to remain open-minded and consider all ideas as they developed and emerged.

I'm clearly the participant with the least experience with teaching science. At first I thought I would not participate [in the project] because I wouldn't be able to contribute much. Right now I'm feeling differently. I feel I have no preconceived notions about the teaching or learning of science, so I feel very receptive to all input, and am looking forward to developing a philosophy around teaching science. (Celia, diary entry, January 21, 1999)

This was Celia's eighth year of teaching. She had previously taught grade levels from junior kindergarten to grade four; this was her first year teaching grade-five students. She had experience teaching in multi-grade settings and for several years had taught music at a music school. She had B.Mus. and B.Ed. degrees and at the time of the study was a part-time M.Ed. student. Her class consisted of 24 students, nine boys and fifteen girls, and Celia was responsible for teaching most areas of the curriculum. She described most of her class as being fairly strong academically, a "B" class on average, with two students labelled as learning disabled, another labelled as gifted, and another needing part-time support outside the regular classroom. The school Celia worked in had 550 students, ranging

from kindergarten to grade six, and many of the parents were from a middle-class background. The school had a staff of 30 and parental involvement was fairly high.

The initial meetings of the action-research group focused on reading and discussing a variety of literature about MI theory.[5] When the group felt it had become comfortable with understanding the nature of MI theory, it decided to examine the theory's efficacy as a pedagogical organizer for science instruction. The group's goal was to explore how other educators have interpreted and applied the theory in the context of their schools and classrooms, thus allowing group members to develop a broad range of ideas about how the theory might be applied to their classrooms.

Exploring MI Theory

After considerable reading and discussion about MI theory and its use in practice, Celia began to formulate her thoughts about it. She believed it could help students become more cognizant of their weaknesses as well as their strengths (self-awareness), and provide an impetus for improving those weaker areas.

It [MI theory] should be a self-discovery thing and finding out what your weaknesses are and then tackling those. That is what appeals to me. If I discover I am weak in logical-mathematical and then I investigate the value of that and why I would need it. (planning session one, January 20, 1999)

In addition, Celia believed she could use the framework of MI theory to structure learning experiences for students that would allow them to become more responsible for their learning. "I really like the idea of it [MI theory] for students to get to know themselves and become more responsible for their learning" (Celia, Diary entry, February 10, 1999).

In applying the tenets of MI theory to science teaching and learning, Celia and other group members felt it was extremely important to emphasize the question, "How am I smart?" (Gardner, 1995a). In other words, instead of asking the traditional question, "How smart am I?" the focus should switch to promoting a broader conception of intelligence. Celia questioned the feasibility of trying to use all the intelligences in any one lesson. She believed all the intelligences should be targeted during teaching; however, the use of any one intelligence should be based on its ability to support the aims of a particular lesson. The use of a strategy or activity should be compatible with the nature of the learning task.

By the sixth meeting of the group, Celia decided to focus on energy, a

mandatory topic in a new Ontario science curriculum (Ministry of Education and Training, 1998). Her goal was to adopt MI theory as an instructional organizer to guide her planning as she developed and implemented a unit on energy.

Using MI theory as a Catalyst in the Science Classroom

Prior to introducing MI theory to her students explicitly and implementing the unit, Celia asked them to answer a series of open-ended questions on a science survey. By using this pre-unit survey, she explored students' current beliefs about science, their prior experiences in learning science, and their attitudes towards science. She used this knowledge to develop student learning experiences in conjunction with MI theory, thus capitalizing on students' prior knowledge, while introducing them to scientific concepts and principles. "I really, really believe in the value of ascertaining students' views and beliefs about science before beginning any activities, and must remember to do that!" (Celia, diary entry, January 25, 1999).

The results of the survey provided Celia with some very important insights about her students' understandings of, and attitudes towards, science. Very few students knew what science was and most had a limited understanding of what scientists do. In responding to the question, "What have you learned in science in previous grades?", few students felt they studied science and only three out of 24 students named some specific science topics from previous grades.

Celia next introduced her students to MI theory explicitly, affording them opportunities to learn about the nature of MI theory and to explore their own intelligences. This explicit exploration of the theory continued throughout the unit, providing students with a framework to reflect upon and assess how they were learning in science classes.

Celia developed the plan for the curriculum unit on energy with support and feedback from members of the collaborative research group. She included seven detailed lessons in her Energy unit that target each of the multiple intelligences, especially the bodily-kinesthetic, interpersonal, intrapersonal, verbal-linguistic, and logical-mathematical intelligences. Celia adopted a range of instructional strategies and activities, many of which she had not used before, such as direct instruction, mind mapping, visualization, inventing, learning centres, art posters, games, debates, and critical thinking. In one lesson, she asked students to invent a contraption to illustrate how to convert energy from potential to kinetic energy. Many

activities in each lesson became part of a student assessment portfolio. These activities were teacher-evaluated, teacher-evaluated and student self-evaluated, or peer-evaluated.

In a final journal entry at the end of the project, Celia summarized how she had used the theory in her science teaching and learning:

I used MI to develop a unit that would be engaging in its sheer variety of activities, trying to incorporate activities that would address all the intelligences, and thereby cater to different learning styles.

I used MI to cater to students with different strengths and weaknesses in that I provided choice of responses to some activities, and in some instances allowed the students to choose from a range of formats for presenting information that was limited only by their imagination and creativity.

After the students completed activities . . . we debriefed why they had chosen the formats they had; why certain formats may have been more successful than others; why certain formats may have been more appropriate in a particular situation than another situation . . . so the students were challenged to reflect regularly on what they were doing, and the type of responses they were choosing.

I used it to evaluate how I myself learn . . . so I felt challenged to look at myself again. (Celia, diary entry, May 10, 1999)

In planning the unit, Celia used MI theory as an instructional organizer to make decisions about how to structure learning experiences to cater to the needs of diverse students, while teaching to and through the intelligences. She used the theory to offer variety in teaching and learning activities and approaches, to offer students choice in how they were learning and being assessed, to foster student reflection about their learning, and to engage in self-reflection about her own learning.

CONCLUSION

Teachers can develop their professional knowledge of science teaching through a variety of means (workshops, action-research groups, study groups, school-university partnerships) and for a variety of purposes (Loucks-Horsley, Hewson, Love, & Stiles, 1999). Often, participation in professional development opportunities requires teachers to explore their beliefs about subject matter, students, pedagogy, and themselves as teachers.

In this study, Celia not only explored her beliefs about science and science teaching, but became much more comfortable with integrating science content and pedagogy, and planning learning experiences that would meet

learners' diverse needs. Furthermore, she became more confident in her ability to teach science and more enthusiastic about teaching it.

Pedagogical Content Knowledge

Teachers possess a broad range of knowledge that informs their decision-making about what they teach and how they should teach. In this study, Celia was successful in enhancing her pedagogical content knowledge (Shulman 1986, 1987). The following comments reflect how Celia experienced growth in this area:

I feel much more aware of the need both in myself to have variety, and for my students to have variety. . . . I have a wider repertoire of strategies upon which to draw when teaching a lesson in any curricular area of designing a unit. . . . However, this group of students felt they had done very little in the past that constituted science, and needed to become enthusiastic about science. The activities they found the most igniting were the ones in which they actually got to build, invent, or design something. (Celia, diary entry, May 10, 1999)

Celia became much more appreciative of her students' need for variety in assessing their learning. She learned to use MI theory as a means to create a student-centred learning environment that, according to Celia, fostered excitement about learning. Initially, when she announced to her class that their next science topic would be energy, the collective response was not enthusiastic.

Certainly at the beginning when I announced that the topic would be energy for this term, there was this dead silence and then a few groans. I tried to find out what they knew, and they knew nothing and they didn't want to know anything. (Celia, final interview, May 6, 1999)

As the unit progressed, this lethargy evolved into excitement about learning science. During my classroom visits, I shared in and observed this excitement. According to Celia, students showed extraordinarily high levels of engagement when doing activities and were very committed to their work: "One thing that is obvious is the increase in enthusiasm for science. The class is super-enthusiastic after lessons one and two. The Rube Goldberg contraptions were a big hit" (Celia, diary entry, March 11, 1999).

At the end of the unit, Celia asked students to respond to this statement in order to share their feelings about how MI theory facilitated their science learning: "I enjoyed the variety of activities." All students enjoyed the variety of activities used in the unit, with 11 of the 24 students responding with a strongly agree to the statement, while 13 students responded with

agree.

Celia deliberately targeted teaching approaches and learning activities to cater to each of the multiple intelligences. By designing learning experiences that targeted each intelligence, she offered students other means (outside the traditional verbal-linguistic and logical-mathematical intelligences) to learn about energy. She described how one student benefited by using her strong intelligence (the visual-spatial intelligence) to complete an activity: "The student would not have possibly been able to read and write about energy, but with this kind of project [constructing Rube Goldberg inventions to demonstrate the difference between kinetic and potential energy] had been successful building something and explaining it. Even though the contraption was the simplest, she had been successful in meeting the criteria and handing it in on time and warranted a B" (Celia, diary entry, April 4, 1999).

Knowledge of the Self

In addition to enhancing her PCK, Celia developed a more in-depth understanding of her own teaching style and a higher level of confidence in her ability to teach science, in other words, "knowledge of the self." Knowledge of the self, according to Elbaz (1981), represents knowledge that is highly "personal" and "helps teachers work towards personally meaningful goals in their teaching" (p. 47).

When asked at the end of the project about future plans, Celia's comments reflected a greater understanding of her own teaching abilities.

I will definitely devise more activities in which the students move around the room more [the bodily-kinesthetic intelligence] . . . and I will definitely use the musical-rhythmic intelligence more extensively. For this project, I only incorporated it as a way students could opt to present or communicate information. I'd like to use it to be more creative with my instructional practices by composing songs and creating chants. I am not sure why I haven't done more in this area. (Celia, final interview, May 6, 1999)

Ironically, the musical-rhythmic intelligence was one of Celia's strongest intelligences (she held an undergraduate degree in music, played several instruments, and had taught music privately for several years); yet, she had not capitalized on this strength to any significant degree in her teaching.

As mentioned previously, Celia entered this project questioning her ability to contribute to the group because her subject-matter knowledge in science was weak and her experience in teaching science was minimal. Another important area of growth for Celia was the development of more confidence in her ability to teach science.

Participating in this project has made me more confident about teaching science, although I certainly have miles to go! . . . I do feel comfortable enough to go beyond the curriculum here and there, and not just feel challenged simply covering the large amount of expectations that are stated categorically in our curriculum. I feel far more enthused about teaching science, and think this rubbed off [on my students]. It's much more fun to teach with a variety of instructional strategies. (Celia, diary entry, May 9, 1999)

The enhancement of Celia's pedagogical content knowledge and the development of her understanding of her strengths and weaknesses as a teacher (knowledge of the self) occurred in conjunction with opportunities to engage in reflection. MI theory provided a tool for engaging in reflection-on-action (Schön, 1983), conscious and deliberate forms of thinking, feeling, and talking after events or before events have occurred. Celia considered herself to be a reflective practitioner and this project reinforced this practice.

I think if you are a reflective kind of person . . . it's very meaningful to me to have that procedure in play. I have to sort of analyse what I'm doing and write it down and draw some conclusions, and what have you. I liked that aspect of it. (Celia, interview, April 6, 1999)

Celia's participation in the project encouraged her to consider the issue of teacher change and the challenges inherent in changing one's practice, especially if it necessitates the expenditure of large amounts of time and energy.

I learned a lot [from the project] and this provoked thought about change, how difficult it is to implement, how much easier it is to follow the simpler path, and how to reconcile taking the easier path with the knowledge that students learn well when engaged, undertaking varied tasks. (Celia, Diary entry, May, 1999)

Challenges Throughout the Project

One challenge for Celia was becoming comfortable with the science content. Before designing and implementing the unit, she spent considerable time becoming familiar with the concept of energy.

Because I am unfamiliar with energy and the concepts to be taught, I am busy investigating materials/activities, and don't feel ready to introduce the added layer of MI yet . . . I'm learning about the topic of energy, teaching science in general, and MI from the ground up! (Celia, journal entry, February 1, 1999)

The ongoing support from group members at meetings, especially the intermediate and high-school teachers, provided a forum for Celia to clarify

her developing understanding about energy.

Another challenge for Celia centred around the issue of time. Planning, designing, and implementing a variety of MI teaching and learning activities to create learner-centred classrooms necessitates teachers expending high levels of energy and huge amounts of time. Many things compete for teachers' time inside and outside the school setting; thus, creating an MI-based science curriculum placed increased demands on Celia's time and energy.

The collaboration with Celia, a highly energetic, insightful, and motivated individual, was a very positive experience. Although few problems arose, I did find at one point that Celia had become very apprehensive about the project after being ill for a three-week period. "Celia has been very sick . . . . She called last night expressing her concern about getting behind and delaying the project. I assured her that she should not worry and that she could progress at her own pace" (Author, journal entry, February 27, 1999). Providing individual moral support was a critical, ongoing role I assumed throughout the project.

DISCUSSION

This study contributes to a greater understanding of teacher development and how teachers can enhance their professional knowledge. MI theory provided a means for Celia to reflect on many aspects of her professional knowledge. She used MI theory as an instructional organizer to critically examine her teaching beliefs and classroom practices and to make pedagogical decisions about how to structure learning for students. She engaged in curriculum making and was an "integral part of the curriculum constructed and enacted" (Clandinin & Connelly, 1992, p. 363). If teachers are to engage in critical self-reflection and inquiry about their practice (as Celia did), they must be more than technicians who implement curricula developed by others; they must also assume the role of curriculum makers. In this way, they are more likely to enhance their professional knowledge and to gain a greater understanding of how to best meet the needs of their students.

Through participation in this project, Celia not only enhanced various aspects of her professional knowledge (pedagogical content knowledge and knowledge of the self), but she also became more adept at integrating all aspects of her professional knowledge. By exploring her teaching style, Celia broadened both her teaching repertoire and her approaches to assessment. She challenged herself to develop intelligences in areas that she had not focussed on in the past; hence, she included teaching and

learning strategies in her science classes that catered to a variety of student learning styles. In addition, she stated she would continue to expand her approaches to science teaching and learning by incorporating more of the bodily-kinesthetic and the musical intelligences into her curriculum.

As evidenced in this study, MI theory is much more than a theory of intelligence. It encourages educators to see student ability from a much broader perspective, and consequently, provides a lens for guiding teaching decision-making. Although this study provides little evidence to support or refute many criticisms of MI theory (as espoused by Klein, 1997; Morgan, 1996; and Sternberg, 1983), it does provide support for the pedagogical merit of MI theory. Furthermore, MI theory, when adopted as a pedagogical organizer, can provide educators with a starting point to consider their teaching styles and beliefs about learners and how to structure learning experiences for all learners. MI theory has the potential to foster positive teacher learning that can translate into improved student learning in science.

FINAL REMARKS

In this article, I reported on how one teacher enhanced her understanding and practice of science teaching and learning. The study is important because it provides evidence about and describes how MI theory can be used as an instructional (pedagogical) organizer to enhance teacher development. It supports Gardner's claims (1998) that MI theory offers a way to "begin to think about individual differences in the classroom" (p. 101) as well as about how teachers can communicate content knowledge to students in multiple ways. Many instructional organizers exist (learning styles, research on gender, for example) and I would recommend MI theory be added to the repertoire of elementary teachers and other educators as a means to reflect on and inform their teaching of science. Just as Celia had an opportunity to participate in an ongoing teacher-development project, other educators need opportunities and encouragement to enhance their professional knowledge through participation in a range of innovative approaches to teacher development.

NOTES

1 Bennett and Rolheiser (2001) refer to instructional organizers as specific bodies of knowledge that play a role in "assisting educators to make wise decisions about the design of learning environments" (p. 339). I have applied this notion to MI theory.

2 The experiences of other members of the collaborative research group are reported elsewhere (Goodnough, 2001a, 2001b, 2001c).

3 In his seminal book, *Frames of Mind: The Theory of Multiple Intelligences*, Howard Gardner (1983) posited the existence of seven intelligences: verbal-linguistic, logical-mathematical, visual-spatial, musical-rhythmic, bodily-kinesthetic, interpersonal, and intrapersonal. More recently, he added an eighth — the naturalistic intelligence (Checkley, 1997).

4 It is beyond the scope and space of this article to provide an in-depth discussion of the entire debate between Klein and Gardner, which is addressed in Gardner (1998) and Klein (1998).

5 Some of the texts and articles read and discussed by Celia within the action-research group included Armstrong (1994), Chapman (1993), Gardner (1983, 1993, 1995a, 1995b), Kagan and Kagan (1998), Klein (1997), and Lazear (1994).

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Characteristics of Co-operating Teachers

Anthony Clarke

In this large-scale study, I have profiled the backgrounds and assumptions of co-operating teachers. The results indicate that teachers have a high state of professional preparedness, a depth of experience not previously documented, an overwhelming desire for feedback, a strong call for selection criteria, and an unexpected gender difference in terms of numbers. The profile that emerged supports some common beliefs about co-operating teachers, refutes others, and extends an overall understanding of their involvement in teacher education. Most important, it signals a shift in their conception.

L'article dresse le profil des antécédents et des postulats des enseignants associés. Les résultats indiquent que les enseignants sont très bien préparés, possèdent une vaste expérience, désirent connaître les réactions de leur entourage, s'intéressent aux critères de sélection et présentent une différence inattendue entre les sexes quant aux nombres. Le profil qui a émergé permet de mieux saisir le rôle des enseignants dans la formation des maîtres. Il signale surtout un changement dans la conception de leur travail : de superviseurs de stages, ils passent à celui de responsables de formation à l'enseignement.

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Classroom teachers who work with beginning teachers in practicum settings play a critical role in pre-service teacher education (Glickman & Bey, 1990; Guyton, 1989). These teachers are involved in the development of the teaching profession or, as Lave and Wenger (1991) put it, "the generative process of producing their own future" (p. 57). Student teachers regard co-operating teachers as the most important element of their teacher preparation (Blakey, Everett-Turner, Massing, & Scott, 1988; British Columbia College of Teachers, 1997; Wideen, Holborn, & Desrosiers, 1987).

Given the central role that co-operating teachers play in practicum settings, it is curious that their work languishes as a research area. Some researchers (e.g., Zimpher & Howey, 1987) commend the attention directed at specific advisory approaches and training-based practices — for example, clinical-supervision commentaries abound. However, many teacher educators call for more extensive research in this area (Glickman & Bey, 1990; Knowles & Cole, 1996; Zeichner, 1992). This article explores the experiences of co-operating teachers.

RESEARCH ON SCHOOL-BASED TEACHER EDUCATORS

In their meta-analysis of a broad spectrum of teacher-preparation programs across the world, Canadian researchers Wideen, Mayer-Smith, and Moon (1998) highlight this shortcoming: "More attention needs to be directed at an in-depth study of how other players affect the landscape and process of learning to teach. . . . [S]upervising teachers are frequently missing in the research" (p. 169). The absence of in-depth research is surprising given the present climate of reform at the pre-service level with emphases on diverse practicum formats and school/university partnerships. For example, in Canada, large-scale teacher education reform has been undertaken at a number of institutions (Cole 2000a, 2000b).

Of the research conducted in this area, training programs to facilitate the work of co-operating teachers and the effects of these programs constitute the largest body of work. Many variants are explored (and simultaneously promoted), with the overwhelming conclusion that training improves advisory practice (Guyton, 1989; Marvin & Beasley, 1996; Metcalf, 1991). Only two studies indicate that the enthusiasm for training programs might be unfounded. Killian and McIntyre (1986) and Miller, Hudson, and Lignugaris/Kraft (1990) found little change and recommended further research.

Much of the literature exploring the work of co-operating teachers generally reads as a litany of woes with co-operating teachers bearing the brunt of the apparently poor state of affairs within practicum contexts (Ben-Peretz & Rumney, 1991; Guyton & McIntyre, 1990; Koerner, 1992). These are useful insights but given current arguments that knowledge is personally constructed, socially mediated, and inherently situated (Brown, Collins, & Duguid, 1989; Garrison, 1995; Hennessy, 1993; Wertsch, 1991), a surprising omission from virtually all these studies is any substantive consideration of the backgrounds of the advisors and their underlying assumptions as co-operating teachers.

Exceptions to this trend are few. Zeichner, Liston, Mahlios, and Gomez (1987) first raised the issue of studying the experiences of co-operating teachers. This inquiry has been taken up more recently by Williams (1995), Knowles and Cole (1996), and John (2002), who seek a more substantive understanding of how co-operating teachers construct and make sense of their work with student teachers. The most comprehensive examination of the work of co-operating teachers currently underway is located within two more broadly conceptualized and well-funded American research initiatives. The first is the Professional Development School (PDS) movement (Darling-Hammond, 1993). While not all PDS sites focus on

co-operating teachers, one example in which this is the case is the research of Pamela Grossman and her colleagues in the Puget Sound area of Washington State (Yerian & Grossman, 1993). Although researchers have not yet reached a conclusion on the effectiveness of these activities (Stallings, Knight, & Wiseman, 1995), PDS sites provide the potential for addressing the work of co-operating teachers in a more coherent and comprehensive manner than is found elsewhere. Moving beyond training and testing programs or critiques of co-operating-teacher practices, there is an emerging picture of co-operating teachers as teacher educators within these projects. Cognizant of the cost involved in setting up PDS sites and the current political and economic resistance to such large-scale innovations (Book, 1996), it is unlikely that we will see the expansion of current PDS sites, or the adoption of similar models elsewhere.

The second large-scale research initiative that contributes to our understanding of the work of co-operating teachers is the research of the American Association of Colleges for Teacher Education's (AACTE), *Research About Teacher Education Project — Study Four (RATE IV)*. Participating U.S. institutions were selected from more than 700 ACCTE member institutions. RATE IV (1990) — Laboratory and Clinical Experiences — provides the first profile of American co-operating teachers. For example, RATE IV shows that co-operating teachers in America are predominately female (67%), white (96%), in their mid-40s, with an average of 16 years teaching experience. Many hold master's degrees (50%), a significant number hold more advanced graduate degrees (10%), and the majority believe that "observing teaching, receiving feedback, and practicing teaching strategies" are the key elements in learning to teach (Zimpher & Sherrill, 1996, p. 292).

These two research initiatives provide a much needed database upon which to construct professional-development opportunities for co-operating teachers that acknowledge who they are, what factors influence their work, and what sense they make of their work with student teachers. Some professional-development providers responding to the rich intellectual background of advisors are now focusing on inquiry-based as opposed to training-based programs to support and facilitate co-operating teachers.

The study that is reported in this article — known as the "Voice of School Advisors" study or VOSA — adds a Canadian dimension to these works by providing a system-wide analysis of 1300 co-operating teachers from British Columbia. This study builds on earlier practicum research in the B.C. context (Grimmett & Ratzlaff, 1986) but focuses specifically on co-operating teachers, seeking detailed demographic information, and

allowing for open-ended rather than fixed category responses. VOSA has two phases. The first, reported here, represents the construction of a co-operating-teacher profile. The second, which is currently underway and draws upon this profile, is an in-depth analysis of the work of five co-operating teachers.

THE STUDY

The UBC teacher-education program shares many features common to other teacher-education institutions, although the size and scale may vary among institutions. Each year the UBC Teacher Education Office engages approximately 1300 classroom teachers to provide practicum placements and to evaluate student teachers. The teachers receive university tuition waivers for their work in the practicum. The practicum constitutes one third of UBC's Bachelor of Education program. In any one year, approximately 30 co-operating teachers voluntarily take a "Supervision of Instruction" course offered by the university (usually off-campus) and a further 150 teachers participate in a half-day workshop. Beyond what is gleaned from advisors during these interactions, the faculty knows remarkably little about co-operating teachers other than reports from UBC faculty-advisors who visit schools approximately once a week during the student-teacher practica. As such, system-wide decisions about work with these teachers, the professional-development opportunities provided for them, and collective attempts (school and university) to integrate on-campus instruction with field work for student teachers is severely constrained by this lack of knowledge. The purpose of VOSA is to construct an initial system-wide profile of UBC co-operating teachers to provide a much needed basis upon which to make decisions. While this is an ambitious undertaking that requires continual development over time, two broad questions, which have relevance to all teacher-education institutions, frame the study: What are the backgrounds of co-operating teachers? and What assumptions do co-operating teachers bring to their work with student teachers?

With the assistance of a graduate student, I distributed in January 2000 a survey constructed around these two questions to the entire 1999-2000 cohort of UBC co-operating teachers. The UBC Teacher Education Office provided the names and addresses of co-operating teachers, all of whom were public school teachers. Surveys were mailed to 1319 teachers: 487 elementary, 80 middle, and 752 secondary-school teachers. We provided stamped and addressed envelopes for the return of the surveys and a numbered double-blind envelope system to track survey returns and

ensure anonymity. In February, we mailed a second, full-survey package to these co-operating teachers who had not replied to the first mailing. Thirty-two surveys were returned unopened or incomplete (e.g., an incorrect addresses, an advisor's student teacher had been re-assigned to another teacher). Of the remaining 1287 surveys, we received 778 completed surveys—a 61% return rate. In the analysis of the data and construction of a system-wide profile, we employed descriptive statistics.

RESULTS

Co-operating Teachers' Backgrounds

Geographical and School-Level Distribution

To determine if the returned surveys were representative of the overall survey population, we conducted analyses of the geographical, school-level (elementary, middle, secondary), gender, and age distribution of the respondents. We found the returned surveys were representative of the geographical distribution of the survey population — the return rate from each of the 25 school districts involved was approximately 60%. One exception was a school district where the return rate was 72%. We attributed the high return rate for this district to a number of UBC teacher-education projects conducted in the district resulting in greater interest in the survey by teachers in that district. Our analysis also found that the return survey population was representative of the overall survey population in terms of school level (elementary, middle, and secondary schools) with only minor variations.

Gender

Similarly, the returned surveys were representative of the overall co-operating-teacher population with respect to gender: 43% male and 57% female. However, in a comparison with the overall B.C. teacher population (34% male and 66% female) this result revealed that males were overrepresented in the co-operating-teacher population. The under representation of females is not clearly understood from the data collected. There are many possible explanations. For example, this difference may arise because females take leave more often than their male counterparts (e.g., family leave) resulting in more frequent entry to, exit from, and movement among schools, and the need to establish themselves in new classrooms and schools upon re-entry before accepting a student teacher.

Age

We found it impossible to determine whether the ages of the co-operating teachers who returned the survey were representative of the total survey population (we had no way to determine the ages of the total co-operating teacher population). However, comparisons between the age statistics for the B.C. teacher population as a whole (Schaefer, 1999) and the returns from the survey population show the two to be consistent. Both statistics exhibit a bimodal characteristic. This is evident in Figure 1, which also provides a breakdown of male and female co-operating teacher participation at 5-year intervals.

The average age of male co-operating teachers was 44 and female co-operating teachers was 43. Females outnumbered males in all age categories by a approximately 15%. Females were represented in larger proportions in the 25-29 category (by a margin of 22%), the 40-44 category (by a margin of 26%), and the 50-54 category (by a margin of 20%). Male co-operating teachers were overrepresented in terms of their proportion of the overall teaching population.
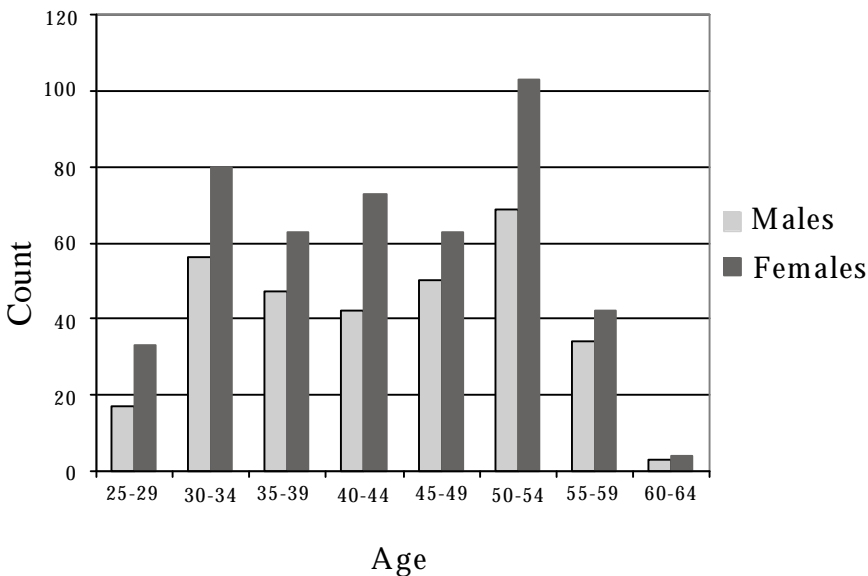

Figure 1. Age distribution by gender of co-operating teachers responding to the survey

This snapshot of co-operating teachers' ages is insufficient to determine more general trends in the age of co-operating teachers over time. It would be interesting to see if the bimodal characteristic of the co-operating-teacher population is tied to the overall teacher population or if the work of co-operating teachers tends to be an early-career and late-career phenomenon. Nonetheless, the current bimodal characteristic suggests that teacher educators might reconsider professional-development opportunities for co-operating teachers, with different emphases for the two distinctly different age groups: an introduction to advisory practices for younger teachers and a review and analysis of advisory practices for more experienced advisors.

Contrary to the expectation that females might be under represented during mid-career years (because of family leave, etc.), Figure 1 indicates that the percentage of females in the population of supervisors increases in comparison with male participation during the same period. This comparison does not dispel the earlier contention that more frequent school changes among female teachers act as a constraint to women taking on supervisory responsibilities. However, it does suggest that a range of factors, other than mid-career absence from and change between schools, is responsible for the underrepresentation of women in the co-operating-teacher population.

When we examined the age distribution of co-operating teachers, we noticed contrasting trends across districts. Districts with little or no increase in pupil enrolment and a very stable teacher population had a larger number of co-operating teachers in the older age categories. For example, one such district had 7% of its advisors in the 30-34 age bracket and 42% in the 50-54 age bracket. The opposite trend was revealed in a rapidly changing school district which had 30% of its co-operating teachers in the 30-34 age bracket and only 13% in the 50-55 age bracket. While it may not be surprising that districts with stable teacher employment and pupil-enrolment patterns have a considerably older cadre of co-operating teachers compared with their more rapidly changing counterparts, what is new is that this issue has not been previously reported or explored in the literature. Rather, homogeneity across many advisor dimensions is assumed and appears to form the basis for most decisions about practicum issues such as professional-development opportunities and support structures for co-operating teachers. The results of this study suggest that this assumption is incorrect and raises important questions about how universities and school districts respond to the challenge of differentiated co-operating-teacher populations. These questions emerge: What is the nature of within-district mentoring opportunities for new supervisors in rapidly growing

districts? and What is the nature of the student-teacher experience in stable districts compared to such experience in districts with growing pupil enrolment and teacher employment?

Academic Qualifications

All co-operating teachers in this survey had taught for at least two years before supervising a beginning teacher: the earliest teaching qualification was awarded in 1957 and the most recent in 1998. An analysis of academic qualifications shows that co-operating teachers were almost twice as likely to hold a master's degree as their non-supervising counterparts: 27% versus 15%. This particular data gives teacher educators reason to pause in the face of the claim that co-operating teachers are ill-prepared to work with student teachers (Ben-Peretz & Rumney, 1991; Guyton & McIntyre, 1990; Koerner, 1992). While one must be cautious in assuming that an advanced degree contributes to better supervisory practice, at the very least teachers who hold an advanced degree indicate a commitment to professional and intellectual development, highly desirable attributes for those working with beginning teachers.

Further analysis shows that 36% of male and 23% of female co-operating teachers held advanced degrees. Of the many possible explanations for this difference, one put forward in the literature is that universities have long represented values and modes of inquiry that do not lend themselves readily to participation by females (Talburt, 2000). In particular, there are numerous critiques of academia as perpetuating white male values to the exclusion of other value systems (the use of the term *master's degree* being one such example). This may explain, in part, the lower participation rates in academia if female teachers find alternative outlets for intellectual and creative expression: outlets for which the status of an advanced degree is secondary to the pursuit of the activity itself. Another possible explanation for the difference is that women take maternity or family leave, while males pursue an advanced degree. Whatever the explanation, it is curious that males were overrepresented in the supervisory population and pursued advanced degrees in greater numbers than did females.

Finally, the survey revealed that many more middle-level and secondary-level co-operating teachers held a master's degree than did their elementary-level counterparts: 36%, 32%, and 19% respectively. Because the academic qualification profile of co-operating teachers was skewed in favour of the more senior grades, it raises this question: Should there be greater emphasis on practicum-related professional development at the elementary-school level than at the middle- and secondary-school levels?

Preparation for Supervision

Teachers in the study were asked to indicate which of the following five options captured the nature of the preparation undertaken for their work as co-operating teachers: university courses, professional-development workshops, in-school meetings with other co-operating teachers, other activities, or no professional development at all (Table 1).

TABLE 1

Professional-development activities of co-operating teachers

Professional Preparation Activities of Co-operating Teachers	Percent
Undertaken One Activity Only:	
Workshop(s) only	6
University course(s) only	3
In-school meeting(s) only	28
Undertaken Two Activities Only:	
Workshop(s) and university course(s) only	7
Workshop(s) and in-school meeting(s) only	22
University course(s) and in-school meeting(s) only	3
Undertaken All Three Activities:	
Workshop(s), university course(s) and in-school meetings	16
Other Activities Undertaken	2
No Activities Undertaken	13
Total	100

As noted earlier, the literature tends to universally condemn co-operating teachers for their lack of practicum-related preparation (Dart & Drake, 1993; Guyton, 1989). The profile emerging from the analysis presented in Table 1 contradicts this assertion. UBC co-operating teachers are surprisingly well prepared. Particularly striking is that approximately 47% of the respondents indicated that they have participated in a formal workshop or a course on supervisory practice—the most substantive forms of preparation currently available.

Seventy percent of UBC co-operating teachers had attended on-site meetings with their fellow supervisors. While such meetings were usually informal in nature, and often more administrative than substantive, they

represented an important first step in engaging co-operating teachers in conversations about supervisory practices. Fourteen percent of co-operating teachers indicated that they had not participated in any form of professional development to facilitate their work with student teachers. When the professional-development activities are split by school level, elementary-level and middle-level teachers are more likely to undertake some form of professional development compared with their secondary-level counterparts (10% higher participation rate in university courses, workshops, and in-school meetings). These data allay concern raised in the previous section and indicate increased professional-development opportunities other than advanced degrees occur at the elementary level.

In short, these two results contradict the common portrayal of co-operating teachers, both in the teacher-education literature and from local anecdotal information. These portrayals apparently focus on a small group of co-operating teachers who are unprepared (recall that those with no preparation represented only 14% of the 1999-2000 cohort) to the exclusion of the majority who are more prepared. Such portrayals in which the focus quickly turns to challenges and leaves little room to celebrate successes is undeserved, certainly in the B.C. context, and may well be unproductive in thinking about supervisory practices. The VOSA results suggest institutions responsible for teacher education look more closely at their supervisory populations with a view to building upon the expertise that already exists. For example, in the UBC context, the faculty offers an introductory course in supervision, but perhaps the institution could offer intermediate or advanced courses in teacher education, commensurate with the level of expertise revealed by this study. As such, the institution would be honouring the knowledge and experience already acquired and also advancing the field of teacher education within current school/ university partnerships. Elsewhere, we have argued (Clarke & Reicken, 2001) for the importance of promoting local teacher-educator associations, which regard teacher education not only as a serious component of regular teaching practice but an important responsibility requiring continuing professional development and reflection on supervisory practices. These directions are significant shifts, which are supported by the VOSA profile.

Supervision Experience

The 778 co-operating teachers who returned the survey had supervised a total of 4616 student teachers. One hundred twenty-eight teachers (17%) had supervised one student teacher. An even number of teachers supervised two, three, or four student teachers (13% in each category).

The remaining 44% of teachers were spread across the other categories — one advisor who obtained her teaching qualification in the late 1950s had supervised 26 student teachers, the most for any advisor.

Of the 4614 student teachers supervised, 257 co-operating teachers (25% of the advisor population) had failed a student teacher — arguably one of the most challenging dimensions of the co-operating-teacher's role. Male and female co-operating teachers failed similar numbers of student teachers. It is commonly believed that co-operating teachers are much less experienced than teacher-educators in dealing with failing students. The VOSA profile highlights the contribution that system-wide analyses provide and the importance, alluded to at the beginning of this article, of constructing profiles to inform local and anecdotal information. In short, the supervisory population has a depth of experience that is rarely recognized.

The analysis of supervision experience brought to light another surprise. Co-operating teachers with no professional development were much less likely to fail a student teacher than were their more professionally prepared counterparts. Only 17% of this group had failed a student teacher versus 25% for total co-operating-teacher group. This observation holds for all co-operating teachers regardless of age. A similar trend is present with those who have had very little professional development (e.g., only in-school meetings). Using the VOSA results, that the more professionally prepared co-operating teachers are able to discriminate between strong or poor student teachers, I suggest that a number of student teachers have gained entry to the profession who might not have done so under the guidance of more professionally prepared co-operating teachers. While this number represents a relatively small percentage of teachers, it does raise the question about the wisdom of having teachers with little or no preparation for their work as co-operating teachers acting as gatekeepers to the profession.

Co-operating Teachers' Assumptions

Key Issues Conveyed to Student Teachers

When the co-operating teachers ranked the three most important ideas they convey to student teachers, they indicated that preparation,[2] classroom management, relationship with children, and flexibility were the most important, with preparation being the single most important idea across all school levels. The gender of respondents made no difference in the ranking of the items. Other attributes that were distinctive within school

levels were "fun and enjoyment" at the elementary level, the importance of "being yourself" at the middle level, and "teaching strategies" at the secondary level.

Co-operating teachers who had failed a student placed even greater emphasis on preparation. This outcome supports the contention that co-operating teachers perceive many attributes of good classroom practice as secondary to the issue of preparation. In light of this finding, it would be interesting to review teacher-education programs and courses to determine how prominently preparation figures. In the current climate of compressed one-year programs and with individual subject-areas competing for instructional time, global constructs such as preparation or ethical practice struggle to gain a significant foothold in teacher-education curriculum. Is this a general condition and how well do universities communicate these programmatic constraints to their partners in the field?

Requirements for Becoming a Co-operating Teacher

The province of British Columbia has no formal requirements for teachers who wish to become UBC co-operating teachers. When asked if co-operating teachers should meet some form of requirement, 82% of the participants responded in the affirmative, with little difference in responses between the male or female co-operating teachers, or across school levels.

When I asked about the nature of the requirements for co-operating teachers, I was able to group 70% of the responses into four distinct categories. Overwhelmingly, the co-operating teachers indicated that teaching experience was the first requirement. The importance of having the right personality for working with student teachers was second. The third criterion was excellence in teaching. Finally, co-operating teachers insisted that those who worked with student teachers should be prepared to work hard in their role as co-operating teacher (as opposed to viewing the role of co-operating teacher as an opportunity for a rest or break from teaching).

At the current time, the only formal requirements for becoming a UBC co-operating teacher are that the teacher has a current teaching certificate, is responsible for a classroom of pupils (teacher librarians and similar specialists are not permitted to supervise student teachers on practicum), and volunteers for the task. These three criteria, while clearly important, fall well short of the requirements that the 1999-2000 cohort of co-operating teachers believe to be essential for those assuming the responsibilities of a co-operating teacher. The issue of requirements is closely tied to the issue of co-operating teacher selection. By and large, the latter determines the

former — that is, the process by which co-operating teachers are selected circumscribes the requirements for role. UBC co-operating teachers self-select and therefore the requirements associated with self-selection govern the process — essentially volunteerism (the first two characteristics, a certificate and an enrolling class, describe the majority of the teacher population and therefore make little difference under this selection process).

Selection of Co-operating Teachers

Survey responses from one third of co-operating teachers indicated that the school principal should be the sole arbiter in selecting co-operating teachers. One quarter of the teachers said that school-based teams should be solely responsible. In a surprising result, one tenth of teachers felt that the university should be solely responsible for this task. The remaining responses involved a combination of participants in the selection process (e.g., the principal and the university).

The choice for principal input into the selection process rose to 51% when all responses involving the principal were combined. When all responses involving school-based teams were combined, 37% of the teachers saw a role for such teams in selecting co-operating teachers. Finally, 23% of co-operating teachers saw a role for the university when all the responses that involved the university were combined. When broken down by school level, the only noticeable difference was in the "principal only" category where elementary-level and middle-level teachers favoured principal selection more than did their secondary-level counterparts. In short, co-operating teachers resoundingly indicate the need for a selection process that moves beyond volunteerism.

At the moment, there is no explicit role for any of the suggested individuals (e.g., the principal), groups, or a combination of these in the selection of UBC co-operating teachers. The B.C. Teachers' Federation (BCTF) indicates it would like to establish guidelines for co-operating-teacher selection (Recommendation 25 - BCTF, 1991) but has yet to act on that recommendation. However, a recent advisory notice from the BCTF (2002) provides the first substantive attempt by the teachers to address this issue in the B.C. context.

The locus for the selection process for co-operating teachers raises jurisdictional issues. Faculties of Education are reluctant to become immersed in this dynamic. For example, UBC holds that the selection of co-operating teachers falls within the jurisdiction of the teaching profession—as it is constituted in schools—and is not a university responsibility (despite an indication in this study that 23% of school teachers

seek university involvement). Following this logic, the university also argues that the selection of faculty supervisors is solely a university responsibility.

Although different players (administrative officers in schools and university personnel) informally influence the outcome of supervisor selection, this process is neither explicit nor readily available for scrutiny or examination. This situation raises the question: Is the current process reasonable, given the importance of the task for which teachers are being selected? In light of the information available from the survey, sufficient grounds exist for teacher federations, principal and vice-principal associations, and universities to collaboratively address co-operating-teacher selection to make the process more transparent to the participants and more responsible to the profession as a whole.

If factors other than volunteerism are to become a part of the selection process, then it is incumbent upon the various players to consider the following features of co-operating teaching as a professional practice: a fair and equitable application process, a means by which teachers are able to develop necessary qualifications, due process in the event of conflict, and feedback on one's practice.

Feedback to Co-operating Teachers

Feedback on one's practice is an important, even essential element of professional work. Under present practicum arrangements, UBC co-operating teachers do not receive feedback on their work with student teachers. Yet 85% of co-operating teachers desired feedback. Four percent responded that they did not want any feedback, and 11% were non-committal, citing, for example, the need for clarification on the feedback process before making a final decision on this issue. The overwhelming number of co-operating teachers who requested some form of feedback comes as a surprise because this desire has not surfaced in any substantive way in the literature on co-operating teachers or the UBC teacher-education context.

When questioned about the method for providing feedback, 26% requested a survey response from their student teachers, 21% asked for a post-practicum meeting with the three members of the practicum triad (student teacher, co-operating teacher, and faculty advisor), and 18% called for a meeting between the co-operating teacher and faculty-advisor. The VOSA results demonstrate that this neglected dimension of teacher education requires urgent attention.

In an interesting cross-analysis of responses, teachers who indicated

that there should be no requirements for those wishing to become co-operating teachers (7% of the survey population) were three times as likely not to want any feedback on their supervisory practice and were twice as likely not to have undertaken any professional development for their work as co-operating teachers compared with their counterparts. Again, this calls into question the small proportion of supervisors for whom their perception of being a co-operating teacher seems at odds with being a member of a profession: acknowledgement of minimum standards, the importance of reflecting on practice, and a commitment to life-long learning.

DISCUSSION

VOSA: From Practicum Supervisor to Teacher Educator

The Voice of School Advisor (VOSA) study provides rich data of UBC's school-based partners in teacher education. The system-wide profile, rendered above, operates at two levels: the first, as a snapshot of co-operating-teacher characteristics, and second, as a more nuanced portrayal of teacher perspectives. Both reflect a shift in the emphasis of the role of co-operating teacher from practicum supervisor to teacher educator. This shift underlines a professional practice dimension that teachers perceive in their work with student teachers.

Aspects of the VOSA profile parallel general trends reported in the literature: for example, the co-operating-teacher population is predominately female, the average age is in the mid-40s, and a significant number hold advanced degrees. However, moving beyond general trends, the VOSA profile pinpoints some key characteristics: first, while more females than males take on the role of co-operating teacher, males are over-represented in relation to their overall numbers in the general teaching population. Another surprise is the bimodal characteristic of the current VOSA population and its implication for the types of support provided for supervisors. A further surprise is the overall number of supervisors who have failed a student teacher, revealing a depth of experience that has not been recognized in the literature to this point. The VOSA profile also reveals a differentiated co-operating teacher population in terms of overall age with respect to the stability of the districts in which the student teachers undertake their practica. Each of these features demands that all stakeholders review their current practices and ways of interacting with co-operating teachers. While some previously held beliefs are shown to be valid, the VOSA analysis demonstrates a number of others to be at

variance with existing conceptions of co-operating teachers.

Moving from the characteristics of the co-operating-teacher population to the ways in which co-operating teachers perceive their work, the VOSA data provide evidence to reassess current thinking about the field of teacher education. For example, contrary to the suggestion that co-operating teachers tend to focus on the technical dimensions of teaching to the detriment of the pedagogical dimensions (Doyle, 1990; Garman, 1990), the VOSA results show the co-operating teachers' primary emphasis is on preparation, which they consider as the important pedagogical dimension of teaching practice. Pushing current conceptions of how co-operating teachers perceive their work further, the VOSA co-operating teachers overwhelmingly argued for clear prerequisites (82%), selection procedures (89%), and feedback processes (85%) for those who work with student teachers. While these issues are quietly mooted in the B.C. context (British Columbia College of Teachers, 1997; Clarke, 1996) and even in the wider teacher-education community (Dart & Drake, 1993; Morine-Dershimer & Leighfield, 1995), they are rarely voiced as strongly as was evident in this study. If teacher education is a form of professional practice — a specialized field of study with particular entry requirements (Hoyle, 1995), then the teachers in this study call for the professionalization of their work from that of practicum supervisor (overseeing practice) to school-based teacher educator (providing a significant educative dimension). This outcome, coupled with the surprisingly high level of professional development already undertaken by many co-operating teachers, suggests that this shift is appropriate and overdue.

The VOSA results, while specific to B.C., provide important comparative data for teacher-education programs with similar institutional and programmatic contexts, be they national or international. The number of VOSA outcomes which previously have not appeared in the literature raises questions about the ways in which common beliefs, unchecked overtime, may be at considerable variance with current circumstances. One concern is that, without system-wide data, important decisions such as the nature and substance of professional-development opportunities provided for co-operating teachers are based on outdated or potentially erroneous local and anecdotal information. Perhaps even more worrisome is the neglect that occurs in the absence of such information: for example, the co-operating teachers' expressed desire to professionalize school-based teacher education. As argued elsewhere (Clarke & Reicken, 2001), if teacher education is truly to become a significant feature of the daily work of classroom teachers — co-operating teachers as school-based teacher educators — then concerted and continuous efforts are necessary to

document and demonstrate the nature and substance of that work. The VOSA study is a response to this imperative.

NOTES

1 In other contexts co-operating teachers are known as school-advisors (the name used at UBC), school associates, practicum supervisors, or sponsor teachers.

2 Preparation refers to the organization of lesson plans and instructional materials for class.

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Book Reviews / Recensions

Christiane Gohier et Suzanne Laurin (sous la direction de) (2001). *Entre culture, compétence et contenu: La formation fondamentale, un espace à redéfinir*. Outremont, QC: Les Éditions Logiques. 354 pages. ISBN 2-89381-799-8.

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Les auteurs québécois et européens que Christiane Gohier et Suzanne Laurin ont convoqués dans cet ouvrage, nous livrent des réflexions particulièrement éclairantes sur la formation fondamentale, qui en questionnent la pertinence et l'actualité. Le sujet y est abordé sous deux angles. Une première partie discute des éléments nodaux autour desquels s'articule la formation fondamentale, soit la culture, la compétence et le contenu d'enseignement. Une deuxième partie présente des façons de véhiculer une formation fondamentale par une discipline ou un objet d'étude.

Les cinq textes de la première partie situent les uns en rapport aux autres et dans des configurations différentes les notions de culture, compétences et savoir, faisant tantôt de l'une, tantôt de l'autre, le pivot autour duquel comprendre la formation fondamentale aujourd'hui. D'abord, Gohier et Grossmann retracent l'évolution de la notion de formation fondamentale dans le discours sur la réforme curriculaire au Québec; elles en relèvent la mutation en la notion de compétence dans le programme du primaire, posant l'interface compétence/culture en un rapport d'opposition plutôt que d'intégration. Perrenoud interroge la notion de formation fondamentale sous l'angle des fondements de l'éducation scolaire en rapport avec les enjeux de socialisation et de formation de l'école face à la complexité du monde et ce qu'ils exigent de l'enseignant; dans ce contexte, la notion de compétence prend une pertinence particulière. Forquin met en rapport formation fondamentale et culture scolaire; il situe la première, puis problématise la deuxième en rapport avec la transposition des savoirs que l'école opère, avant de poser la question des savoirs fondamentaux sous trois conceptions, dont la conception culturelle et patrimoniale qu'il privilégie. Simard, Gauthier et Martineau s'attachent au rôle de la culture dans l'exercice du jugement professionnel des enseignants; partant de Schön et de l'herméneutique, ils mettent en valeur le jugement dans la pratique de l'enseignement, que la culture vient nourrir, développer et appuyer. Audigier aborde la question

sous l'angle des contenus d'enseignement remettant en cause l'opposition entre savoirs et compétences, dimension culturelle et dimension instrumentale de la formation.

En deuxième partie, l'accent est mis sur la relative convergence des propositions relatives aux manières de saisir le fondamental et de l'aborder. Laurin cerne le fondamental en géographie scolaire, sous l'angle des contenus d'enseignement favorisant l'éducation à la pensée et propose comme repères didactiques la mise en relation de trois composantes : le sentiment, la connaissance et la conscience géographiques. Mettant en rapport formation fondamentale et philosophie, Vacher invite à prendre en compte les mutations qu'a subies le monde contemporain et propose une approche cognitive et théorétique de la philosophie accompagnée d'une pédagogie par la discussion. C'est une approche analogue que propose Fountain pour l'enseignement des technosciences; l'éducation scientifique étant passée, d'une rhétorique des constructions à une rhétorique des conflits, l'auteure invite à étudier les controverses technoscientifiques. Sauvé aborde pour sa part l'éducation relative à l'environnement, comme dimension essentielle de l'éducation fondamentale, instrument au service de la conservation, et comme relevant d'une éthique de la responsabilité. Tessier et McAndrew traitent de l'éducation à la citoyenneté, en cernant les dimensions fondamentales autour des concepts intégrateurs de démocratie et de droit. Enfin, Gingras questionne l'ancrage institutionnel des objets pluridisciplinaires. Soutenant qu'une formation fondamentale peut aussi être multidisciplinaire il en examine la possibilité à l'université entre rhétorique et réalité.

La diversité des points de vue exposés dans cet ouvrage illustre bien la polysémie de l'expression « formation fondamentale ». La pertinence de la question et la fécondité des réflexions proposées n'en sont que plus évidentes. Elles obligent le lecteur à se repositionner et à développer un regard neuf sur la formation fondamentale tant sous un angle conceptuel, que sous un angle didactique.

L'actualité du questionnement est tout aussi grande, particulièrement au Québec en considération de la réforme éducative en cours. Si les propositions de la deuxième partie peuvent inspirer les applications de domaines disciplinaires ou de thèmes transversaux, les propos de la première partie permettent de mesurer les limites des choix opérés par les concepteurs de programme, voire de les reconsidérer. En effet, après avoir posé le rehaussement culturel du contenu scolaire comme pierre d'assise, comme le suggère Forquin, le discours officiel sur le curriculum s'est tourné vers les compétences à la manière que propose Perrenoud, mais sans poser la question de la formation fondamentale, comme le démontrent Gohier

et Grossman, sans considérer le rôle de la culture dans la formation des enseignants que réclament Simard et al. et sans résoudre le problème des contenus à enseigner à l'aide desquels on devient compétent, comme le demande Audigier. *Entre culture, compétence et contenu : La formation fondamentale, un espace à redéfinir* est un ouvrage exigeant, mais que tous ceux qui sont engagés de près ou de loin dans l'élaboration ou l'implantation de réformes éducatives, concepteurs de programmes et de manuels, formateurs de maîtres ou enseignants, gagneraient à méditer.

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Edward B. Fiske and Helen F. Ladd. *When Schools Compete: A Cautionary Tale*. Washington, DC: Brookings Institute Press, 2000. 342 pages. ISBN 0-8157-2835-2.

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Reformers in education worldwide have shown an interest in deregulating school systems and privatizing schools to achieve administrative efficiency, such as the educational reform in New Zealand with charter schools and voucher programs. Fiske and Ladd's book alerts such reformers about possible outcomes of a deregulated, decentralized, parent-choice system of education. They enumerate the consequences of deregulation: polarization of students by race and class and the abandonment of unsuccessful schools.

Fiske and Ladd are highly critical of New Zealand's market-driven approach to delivering education. They point out that the government underestimated the ongoing support that self-governing schools required, particularly those that serve disadvantaged students. Although New Zealand's competitive environment made schools more sensitive to the needs of students, it also contributed to a decline in professional collegiality and the concentration of the best teachers in schools attended by advantaged students. It also led to some schools becoming oversubscribed. For one year, the oversubscribed schools used a supervised ballot to select students randomly; however, these schools replaced this ballot with their own enrolment schemes and admissions policies. The system was transformed into one of school choice, where schools had virtually unlimited control over student admission. As a result, this system of school choice increased segregation of students by class and ethnicity because some disadvantaged families did not have the economic support to exercise their choice.

Fiske and Ladd list problems that persisted in the capacity of school boards to carry out their governance function: increased workloads for teachers, administrators, and trustees, and conflicts among schools. Moreover, schools in low socio-economic neighbourhoods had difficulty with governance because they could not draw on the cultural capital of their parents, something taken for granted in advantaged neighbourhoods. Fiske and Ladd point out that the market model worked to the advantage of some groups of parents and schools and to the disadvantage of others. Fiske and Ladd use hindsight to point out that the combination of deregulated, self-governing schools and market-driven ideology was destined to be ruinous for some schools. They argue that large-scale interventions, with support for learning and teaching and not solely for governance and management, are necessary for educators who truly care about students in struggling schools. Fiske and Ladd sum up: "Thus, whatever the benefits to some institutions and some students, the Tomorrow's Schools reforms have not produced a rising tide that raises all boats and increases the overall quality of the entire system" (pp. 306–307). On a positive note, they also report that, as a result of New Zealand's education reform, parents are made to feel more welcome in schools and some students are treated more respectfully because their individual needs are handled more sensitively.

Fiske and Ladd's book about substituting the market for democratic politics is impressively researched. They have managed to organize connected events into a compelling narrative of the still-unresolved issue of deregulating education, wherein individual choice is more significant than collective compromise, and where citizenship is defined as simply consumer choice. The authors make it quite clear that it is imperative for educators, parents, and policymakers to clearly examine possible consequences of a change in ideology, such as in New Zealand's social experiment, before blindly plunging into untested waters.

The simplistic notion that good management is sufficient to ensure the delivery of effective education results in schools being blamed for problems that more precisely mirror the priorities and blunders of the economic system. Blaming school failures solely on poor management diverts attention from an analysis of the economic, social, and political power structures that sustain and endure disparity and injustice.

A society should and will, I think, be judged according to how it treats its weakest members. I seriously question, then, any school reform that invests in the best at the expense of the rest, a telling outcome of the New Zealand experiment. An important lesson learned from New Zealand's reform, to treat schools like businesses, is that schools should not be judged

by outsiders with no offer to assist those who require it. If struggling schools fail to receive necessary support, they will victimize students and rob society of a crucial service for which it pays. Fiske and Ladd offer proof that society cannot count on the market place to address the deplorable situation of setting up schools, and therefore students attending them, as losers. New Zealand reform is a strident reminder: a market-driven, parent-choice education system is a victory for a narrow class interest over community. Reform advocates for schools of choice speak, I argue, for the corporate elites who wish to be freed from the legislative and legal protections in place to promote equity, and to be clear of public responsibility for broadening democracy and nourishing community. This position raises profound questions for public education: Do schools educate children to ensure they learn their place in society? Or should they attempt to close the ever-widening gap between those that have and the less fortunate? Fiske and Ladd leave no doubt about their answer: the importance of a common educational experience for a democratic society.

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4. Tables, figures, and graphic material are accepted only when necessary for the rigour of the argument.

5. Manuscripts must be entirely double-spaced (including quotations, notes, references) in 12-point type. Five copies with an abstract of not more than 100 words are required.

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